

FLORA LONDINENSIS:

OR

PLATES AND DESCRIPTIONS OF SUCH PLANTS

AS GROW WILD IN THE

ENVIRONS of LONDON:

WITH

Their Places of *Growth*, and Times of *Flowering*; their several
Names according to LINNÆUS and other Authors:

WITH

A particular DESCRIPTION of each PLANT in LATIN and ENGLISH.

To which are Added,

Their several Uses in *Medicine*, *Agriculture*, *Rural Oeconomy*, and other *Arts*.

By W I L L I A M C U R T I S,

DEMONSTRATOR of BOTANY to the COMPANY of APOTHECARIES.

V O L. I.

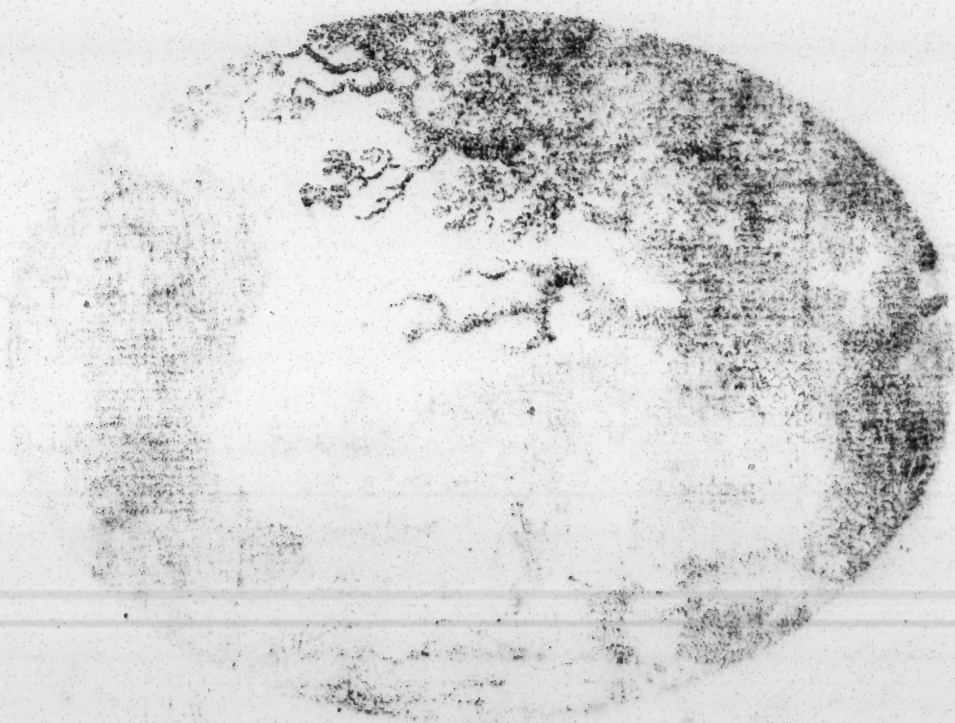


the hand of nature
imprints a different
decorates its province in
some by the hand
with wise intent
on peculiar minds
bias, and to each
the common toil
draw forth, distilling
in balmy tears:
she leads o'er vales & mountains to explore
what healing virtue swells the tender veins
of herbs & flowers; or what the beams of morn
draw forth, distilling from the distill'd wind

L O N D O N :

Printed for and Sold by the AUTHOR, No. 51, Gracechurch-Street; and B. WHITE, Bookfeller, in Fleet-Street.

MDCCLXXVII.



A

LIST OF THE SUBSCRIBERS

TO THE

FLORA LONDINENSIS.

A.

Mr. Stanesby Alchorne, Tower, two sets.
Mr. Richard Atkinson, Nicholas-lane.
Mr. George Adams, Fleet-street.
Mrs. Adams, Fleet-street.
Dr. Joseph Allen, Dulwich.
Dr. Edward Archer, Grays-Inn.
Mr. William Anderson, Gracechurch-street.
Mr. Thomas Armiger, Apothecary, Queen-street, Cheap-side.
Mr. Abendroth, Hamburgh.
Joseph Aires, Esq. two Sets.
Captain Annington.

B.

Earl of Bute.
Honourable Daines Barrington.
Honourable Mrs. Byron, Pinner, Middlesex.
Honourable Topham Beauclerc, Adelphi Buildings.
Joseph Banks, Esq. New Burlington-street.
Mrs. Banks, Chelsea.
John Blake, Esq. Parliament-street.
William Baker, Esq. Hill-street, Berkley-square.
Mr. David Barclay, Youngsberry.
Mr. John Barclay, Queen-street, Cheap-side.
Robert Barclay, Esq. Urie, Scotland.
Mr. Robert Barclay, Cheap-side.
Mr. Jonathan Bell, Hertford.
Mr. Newton Barlett, Lambs Conduit-street.
Mr. Edward Binyon, Cheap-side.
Mr. Uriah Bristow, Apothecary, Clerkenwell-square.
Mr. James Bell, Montague-Close, Borough.
Mr. John Blackwell, Lambeth.
Mr. Joseph Beefely, Worcester.
Mr. John Butcher, Surgeon, Borough.
Mr. George Barrett, Loddon, Norfolk.
Mr. George Burch, Apothecary, King-street, Westminster.
Mr. Francis Belham, Trinity-Colledge, Cambridge.
Mr. James Brougham, Surgeon, Atkrigg, Yorkshire.
Mr. Robert Beaumont, Surgeon, Litchfield.
Mr. John Beaumont, Holborn.
Mr. Thomas Bond, Surgeon, Cambridge.
Mr. Thomas Baddely, Surgeon, Newport, Shropshire.
Mr. John Burr, Surgeon, Hertford.
Mr. John Brown, Holborn.
Captain Boteler, Uxbridge.
Mr. John Bradney, Apothecary, Eastcheap.
Mr. Joseph Bradney, Apothecary, Wood-street.
Mr. William Boys, Surgeon, Sandwich.
Browning, Esq. Master in Chancery, Chelsea.
Rev. Nicholas Bacon, Coddendam, Suffolk.
Mr. Brandram, Budge-Row.
Mr. Joseph Beck, Bristol.
Mr. Burton, Attorney, Hatton Garden.
Mr. John Burlingham, Worcester.
Mr. Buchannan.

C.

General Carnac.
Richard Clarke, Esq. Newport, Isle of Wight.
Samuel Crawley, Esq. Argyle-Street.
William Constable, Esq.
Mrs. F. Chambers, Mincing-lane.
Mr. Charles Combe, Apothecary, Bloomsbury-square.
Mr. John Church, Surgeon, Islington.
Mr. Joseph Cockfield, Upton, two Sets.
Mr. John Chorley, Gracechurch-street.
Mr. John Crowley, Gracechurch-street.
Mr. Sedgfield Crowley, Camomile-street.
Henry Chapman, Esq. St. Mary-at-Hill.
Mr. John Chandler, Apothecary, Old-Jewry.
Mr. Thomas Collinson, Lombard-street.
Mr. Loftus Clifford, Surgeon, Mansfield, Nottinghamshire.

Rev. H. S. Cruwys, Battersea.
Mr. W. S. Cooper, Clerkenwell-square.
Mr. John Chalie, Mincing-lane.
Dr. Coyte, Yarmouth, Norfolk.
Mrs. Clark, Windsor.
Mr. Richard Capp, Bushy-hill.

D.

Lord Ducie, Harley-Street.
Baron Dimisdale, Hertford.
Charles Dalrymple, Esq. Bell-vue, Kent.
Mr. Abraham Darby, Colebrooke Dale.
Mr. Samuel Darby, Thames-street.
Mr. Samuel Driver, Kent Road.
Mr. Cator Day, Surgeon, Colchester.
Mr. Roger Devy, Apothecary, Hoxton.
Mr. Douglass, Apothecary, New North-street, Red Lyon-square.
Mr. Downing, Surgeon, Clapton.
Mr. Dru Drury, Strand.
Dansey Dansey, Esq.
Mr. Philip Deck, St. Edmondsbury.
Rev. Mr. Davies, Cambridge.
Dr. Dewint.

E.

Mr. Joseph Elfe, Surgeon, Throgmorton-street.
Mr. W. Ellis, Apothecary, Lombard-street.

F.

Thomas Frankland, Esq. South Audley-street.
Dr. John Fothergill.
Dr. George Fordyce.
John Ravel Frye, Esq. Charlotte-street, Bloomsbury.
Major Ferrand.
Thomas Fonnereau, Esq. Leadenhall-street.
Mr. Field, Apothecary, Newgate-street.
Mr. William Fothergill, Carr End, Yorkshire.
Mr. William Ford, Lombard-street.
Mr. Ford, Surgeon, Bristol.
Mr. Francis Freshfield, Colchester.
Mr. Francis Fisher, Surgeon, Croydon.
Mr. William Fowle, Apothecary, Red-Lyon-square.
Mr. Ford, Surgeon, Gerrard-street.

G.

Gray, Esq. Bruton-street, Berkley-square.
Mr. Richard Gurney, Norwich.
Rev. Henry Greene.
Mr. Thomas Green.
Mr. John Green, Bunhill-Row.
Mr. Chapman George, Bishopsgate-street.
Mr. John Goad, Bishopsgate-street.
Mr. James Gordon, Fenchurch-street.
Dr. Grant, Lime-street.
Rev. Dr. Goodenough, Turret-House, Ealing.
Mr. Henry Gardener.
W. M. Godschall, Esq.
Mr. Joel Goring, Uxbridge.
Captain Gossip.

H.

Lady Harris, Finchley.
Dr. John Hope, Edinburgh.
Dr. William Hunter.
Mr. Samuel Hoare, Broad-street.
Mr. Jonathan Hoare, Cateaton-street.
Mr. William Henly, Borough.
Mr. John Hunter, Surgeon, Jermyn-street.
Mr. Robert Haycock, Wells, Norfolk.
Joseph Hurlock, Esq. Grays Inn-lane.
Mr. Philip Hurlock, Apothecary, St. Paul's Church-yard.

THE LIST OF SUBSCRIBERS.

Mr. Joseph Harford, Bristol.
Mr. George Hurst, Apothecary, Queen-Square, Holborn.
Mr. Jacob Hagen, Mill-street, Dockhead.
Mr. Haskey.
Mr. Richard Haworth, Apothecary, Chancery-lane, two Sets.
Mr. Robert Holder, Apothecary, Norfolk-street, Strand.
Mr. Hoblyn, Christ Church, Oxford.
Mr. Thomas Horne, Grange Walk.
Mr. Harris, Apothecary, Crutched-Friars.
Mr. W. H. Higden, Surgeon, Manchester Buildings, Westminster.
Mr. Hingeston, Apothecary, Cheapside.
Dr. Hird, Leeds.
Mr. Thomas Howard, Surgeon, Uxbridge.
Mr. Thomas Henry, Apothecary, Manchester.
Mr. John Harrison, Apothecary, Derby.
Mr. Mark Harford, Jun. Bristol.
Mr. James Hawkins, Surgeon, Croydon.
Mr. Robert Harpur, Heath, near Wakefield.
Rev. Mr. Harpur, British Museum.
—— Hollis, Esq. Great Ormond-street.
Leonard Troughear Holmes, Esq. Isle of Wight.
Mrs. Jane Hyde.

J.

Mr. James Jenkinson, Yealand.
John Innys, Esq.
Mrs. Jones.
Mr. William Isatt.
Mr. Jones, Apothecary, Gracechurch-street.

K.

Earl of Kerry, Portman-square.
Lady King, Dover-street, Piccadilly.
Rev. Dr. Kaye, Piccadilly.
Dr. Knowles, Fenchurch-street.
Mr. Robert Kerby, Surgeon, Luton.
Mr. George Keith, Gracechurch-street.

L.

John Gideon Loten in Insulis Zeylano et Celebe olim Gubernator.
Dr. J. C. Lettsom, Great Eastcheap, two Sets.
Rev. John Lightfoot, Uxbridge.
Mr. Charles Lightfoot, Surgeon, Whitby.
Mr. James Lee, Hammer-smith.
Mr. Longley, Apothecary, Broad-street.
Mr. Timothy Lane, Apothecary, Alder-gate-street.
Mr. Lloyd, Temple.
Rev. Mr. Lort.
Mr. Lifcombe.
Dr. Abraham Ludlow, Bristol.
Rev. James Lambert, at Lady Leicester's, Hill-street, Berkley-square.

M.

Earl of Marchmont.
Right Honourable Stewart Mackenzie.
Sir William Muirgrave, Arlington-street, Piccadilly.
Mr. Thomas Martham, Cheap-side.
Mr. Daniel Mildred, Tower-hill.
Dr. Muzellus, Berlin.
Mr. Robert Maddocks, Witney.
Mr. James Maddocks, Walworth.
Mr. William Masterman, Gracechurch-street.
Mr. Malcomb, Kennington.
Mr. William Myers.
Mr. Moore, Fleet-street.
Benjamin Mee, Esq. Fenchurch-street.
Mr. John Micklen, Uxbridge.
Edward Muffenden, Esq. Yarmouth.
Dr. Moreton, British Museum.
Hugh Mears, Esq. Vauxhall.

N.

Duke of Northumberland.
Earl of Northington.
—— Nevel, Esq.
Mr. Robert Norman, Gracechurch-street.
Mr. Richard Nairne, Cornhill.
Mr. Edward Newell, Surgeon, Colchester.
Rev. Mr. Newbery, Oxford.
Mr. Nelson, Apothecary, Red Lyon-street, Holborn.
Captain Nairne.

O.

Craven Ord, Esq. Charlotte-street, Bloomsbury.
Mr. Edward Oxley, Norwich.

P.

Duchefs of Portland, two sets.
Dr. William Pitcairn, Warwick-court.
Isaac Pickering, Esq.

Dr. Lewis Petit, Great Marlborough-street.
Mr. Samuel Palmer, Worcester.
Edward Parker, Esq. Brig. in Lincolnshire.
Mr. Richard Prior, Budge-Row.
Mr. Giles Powell, Apothecary, South Audley-street.
Mr. Robert Pope, Surgeon, Stanes.
Major Thomas Pearson.
Mr. Parker, Fleet-street.
Rev. Mr. Pierfon, Coxwold.

R.

Sir Alexander Ramsay, Fasque, Scotland.
Sir John Russell.
Thomas Ruggles, Esq. Cobham.
Samuel Rudge, Esq.
Cornelius Rodes, Esq. Barlborough-Hall.
Dr. Rawlinson, Watling-street.
Mr. Samuel Robinson, St. Thomas Apostles, two Sets.
Colonel Ratcliffe.
S. C. Reynardson, Esq. Great Ormond-street.
Mr. John Russell, Lewisham.
Mr. Foster Reynolds, Mitcham.
Mr. Roberts, Junior.
Mr. Van Rixtell.

S.

Lady Strathmore.
Sir George Saville, Saville-House, Leicester Fields.
Dr. D. C. Solander, British Museum.
Edward Salway, Esq. Ludlow, Shropshire.
Mr. Shirley, Surgeon, Islington.
Mr. Joseph Storrs, Chesterfield.
Mr. James Severn, Apothecary, Carnaby-Market.
Mr. Swale, Lincolns-Inn.
Mr. George Stacey, Holborn.
Dr. William Saunders, Jefferys-square, St. Mary Axe.
Thomas Sykes, Esq. Hackney.
Dr. Hugh Smith, Great Tower-street.
N. P. Smith, Esq. Winchester.
Mr. James Smith, Surgeon, Ramsay.
S. F. Simmons, Esq. Wingham, Kent.
Mr. George Spence, Piccadilly.
Mr. Stevens, Stanes.
Mrs. Stevenson, Queen-square, Bloomsbury.
Mr. Robert Simpson, Apothecary, Bristol.

T.

Honourable Mrs. Talbot, little Hillingdon, near Uxbridge.
Thomas Tofield, Esq. Wilfick, near Doncaster, Yorkshire, two sets.
Marmaduke Tunstall, Esq.
Mrs. Towers, at Huntmore Lodge, near Iver, Bucks.
Reverend Mr. La Trobe.
Mr. Joseph Talwin, Bromley-Hall.
Mr. John Talwin, Surgeon, Royfton.
Mr. Richard Turner, Uxbridge.
Mr. Travis, Surgeon, Scarborough.
Mr. John Tilladams, Surgeon, Bristol.

V and U.

Mr. James Vafston, Clapton.
Mr. Vine, Surgeon, Gravesend.
Mr. Francis Upham, Apothecary.

W.

Alexander Wedderburne, Esq. Solicitor General.
—— Weddel, Esq. Upper Brook-street.
Thomas White, Esq. Thames-street, two sets.
Reverend Mr. Walker, Islington, of Trinity Colledge.
Mr. Edward Wakefield, Lad-lane.
Mr. Jabez Wyatt, Saffron Walden.
Mr. William Wooton, Apothecary, Lower Brook-street, Grosvenor-square.
Mr. John Woodd, Apothecary, Old Burlington-street.
Mr. Willis, Apothecary, Hermitage, Wapping.
Mr. John Ware, Crayford, Kent.
William White, M. D. York.
Reverend Mr. Wood, Iver, Bucks.
Mr. William Wavell, Surgeon, Gracechurch-street.
Reverend Mr. White, Jun. Yarmouth, Norfolk.
Mr. Walter Williams, Attorney, Apothecaries Hall.
Mr. William Williams, Apothecary, Bristol.

Y.

Dr. Yalden.
William Young, Esq. Deleford, near Uxbridge.

Z.

Mr. John Zachary, Cannon-street.

OMITTED OR SINCE ADDED.

Apothecaries Company.
Mr. Thomas Crowley, Camomile-street.
Mr. Halfhide.
Mr. Lowe, Surgeon, Preston, Lancashire.
Mr. Laird, Tokenhouse-yard.
Mr. William Morris, Philadelphia.
Mr. Samuel West, Abchurch-lane.
Hutchinson Muir, Esq.
—— Stirling, Esq. Jamaica.
Mr. William Staniforth, Surgeon, Sheffield, Yorkshire.
Dr. Richard Saunders, Spring Gardens.

Reverend Mr. Southgate.
Mr. Joshua Strangman.
Reverend Mr. Woodford, Southampton.
Dr. David Orme, Great St. Helens.
Mr. Melvill.
Mr. John Harris, Surgeon.
William Norford, M. D. St. Edmondsbury.
J. Sneyd, Esq.
Reverend Mr. Davis, Fellow of Merton Colledge, Oxford.
Mr. T. G. Cullum, Surgeon, St. Edmondsbury, Suffolk.
Dr. A. Hunter, York.

This Catalogue is printed more with a view to obtain a compleat one, to be published in the third Fasciculus, than as one already perfect: the Author is sensible that there are many persons take in this work, whose names are not inserted, and many errors will probably be found in what is here printed: he will gladly receive any information, (postage free,) whereby he may insert such names and rectify such errors.



A

L I S O F T H E S U B S C R I B E R S

T O T H E

F L O R A L O N D I N E N S I S.

A

the Duchefs Dowager of Athol, near Farnham,
horne, Tower, two Setts
Esq. Fenchurch-ftreet
ms, Fleet ftreet
t. D. Dulwich
M. D. Grays-Inn
nderfon, Gracechurch-ftreet
Amiger, Surgeon, Old Fish-ftreet
rics Company
William Allen, Esq. Davyhulme, Lancashire
Mr. John Aikin, Surgeon, Warrington
Captain Anningfon

B

The Right Honourable the Earl of Bute, South Audley-ftreet, 3 Setts
Sir Joseph Banks, Bart. Soho-square
Sir Lambert Blackwell, Bart. Endfield
Miss Banks
William Baker, Esq. Hill-ftreet, Berkely-square, two Setts
Mr. Rachael Barclay, Red-Lion-Square
Mr. John Barclay, Queen-ftreet, Cheapfide
Mr. Robert Barclay, Cheapfide
J. Barclay, Esq. Urie, Scotland
Mr. Newton Bartlett, Lambs-Conduit-ftreet
Mr. Uriah Bristow, Apothecary, Clerkenwell-square
Mr. James Bell, Montague-Clofe, Southwark
Mr. George Barrett, Loddon, Norfolk
Mr. James Brougham, Apothecary, Aikrig, Yorkfhire
Mr. John Brown, Holborn
Mr. John Beaumont, Holborn
Mr. John Burr, Surgeon, Ware
Mr. John Bradney, Apothecary, London-ftreet
Mr. Joseph Bradney, Tower Royal
Mrs. Browning, Chelsea
Mr. Burton, Hatton Garden
Mr. Joseph Beefely, Worcester
Rev. Richard Bluck, Cambridge
Rev. Dr. Brooke, Cambridge
Edmund Bott, Esq. Chrift-church, Hampfhire
Bath Society for promoting Agriculture, &c.
John Baker, Esq. Princes-ftreet, Spitalfields
George Buxton, M. D. Greenwich
Rev. Mr. Bagshaw, Bromley, Kent
Elifha Biscoe, Esq. Sunning-Houfe, Reading
Mr. Thomas Bowen, Pulham, near Harleiton, Norfolk
Mr. William Boys, Surgeon, Sandwich
Rev. Nicholas Bacon, Coddendam, Suffolk
British Mufeum
Joseph Beck, Esq. Bristol
Richard Bright, Esq. Bristol
Mr. William Bent, Clerkenwell
John Beevor, M. D. Norwich
Mrs. Brown, Norwich
Mr. George Hollington Barker, Attorney, Birmingham
Mr. Robert Beaumont, Surgeon, Litchfield
Mr. Thomas Bond, Surgeon, Cambridge
Mr. Thomas Baddely, Surgeon, Newport, Shropfhire
Mr. Bowman

C

The Right Honourable the earl of Clanbraffil
Lady Champneys, Orchardley Houfe, Frome, Somerfetfhire
Mr. Richard Clark, Ifle of Wight
Samuel Crawley, Esq. Argyle-ftreet
Richard Crawley, Esq.
William Conftable, Esq. Burton-Conftable, Yorkfhire
Mr. Charles Combe, Apothecary, Bloomsbury-square
Mr. John Church, Surgeon, Iflington
Mr. Joseph Cockfield, Upton, two fetts
Mr. John Chorley, Gracechurch-ftreet
Mr. John Crowley, Gracechurch-ftreet
Mr. Thomas Crowley, Camomile-ftreet
Mr. Thomas Collinfon, Lombard-ftreet
Mr. W. S. Cooper, Clerkenwell-square

Mr. Loftus Clifford, Surgeon, Mansfield, Nottinghamfhire
Dr. Coyte, Yarmouth
Mr. Cofens, Apothecary, Bagnio-court, Newgate-ftreet
Thomas Gerv Cullum, Esq. Bury St Edmunds
Rev. John Clowes, Rector of St John, Manchester
George Cooke, Esq. Street Thorpe, near Doncafter
Mr. Crispin, Cattle yard, Holborn
Thomas Cornewall, Esq. Chart-ack, near Dorking
Peter Calvert, M.D. Doctors-Commons
Mr. Carter, Halftead, Efix
A. Caldwell, Esq. Dublin
R. M. Trench Chifwell, Esq. Portland-place
James Crowe, Esq. Norwich
William Cooper, D. D. F. R. S. Archdeacon of York
Mr. R. Carpenter, Surgeon, Lyme Regis, Dorfet
Mr. Chambers, Surgeon, Bromley, Kent

D

The Honourable Baron T. Dimdale, Hertford
The Honourable Baron N. Dimdale, Red-lion-square
— Day, Esq. Efix
Mr. Douglafs, Apothecary, Bedford-square
Mr. Downing, Surgeon, Clapton
Mr. Dru Drury, Strand
Mr. Philip Deck, Bookfeller, St. Edmunds Bury
Rev. J. Davies Trinity Colledge, Cambridge
Rev. Mr. Davifon, Carliffe
Mr. John Dyer, Radinghall-ftreet
Rev. Mr. Drake, Grosvenor-square
Dr. Dalling, Derby
Phillip Du Val, D. D.
Francis Dalling, Chifchurft, Kent
Robert Dack, M. D. Norwich
Rev. Mr. Davis, Fellow of Merton Colledge, Oxford

E

Mrs. Egerton, Oulton Park, Cheshire
Thomas Eyre, Esq. Haffop, near Bakewell, Derbyfhire, two fetts
Mr. William Eaton, Yarmouth

F

Thomas Frankland, Esq. York
George Fordyce, M. D. Effex-ftreet, Strand
Thomas Fonnereau, Esq.
Mr. Field, Apothecary, Newgate-ftreet
Mr. William Fothergill, Carr End, Yorkfhire
Mr. Francis Freshfield, Colcheffer
Mr. William Fowle, Apothecary, Red Lion-square
John Foffer, Esq. Dublin
John Ford, Esq. Bristol
Major Ferrand
William Frafer, M. D.

G

Honourable Mr. Greville, Portman-square
Sir John Griffin Griffin, Bart. Audley-End, Effex
Rev. Samuel Goodenough, D. D. Ealing
William Green, Esq. Lewes, Suffex
Mr. Chapman George, Clements-Inn
Mr. James Gordon, Fenchurch-ftreet
William Mann Godfchall, Esq.
Mr. Gillman, Great Ormond-ftreet
Mr. Bartlett Gurney, Norwich
Rev. Mr. Goodinge, 4 eeds
Ralph Grey, Esq. New Bond-ftreet
H. Grimfton Esq. Northampton
Nich. Gwyn, M. D. Ipswich
Mr. William Green, Bury
Captain Goffip

H

Rt. Honourable Lord Howe, Grafton-ftreet
Lady Harris, Finchley
John Hope, M. D. Prof. of Bot. Edinburgh
William Hunter, M. D. Great Windmill-ftreet
Mr. John Hunter, Surgeon, Jermyn-ftreet
Mr. Harris, Apothecary, Crutched Friars
Mr. Jonathan Hoare, Frederick's Place, Old Jewry
Mr. Robert Haycock, Wells, Norfolk
Mr. Phillip Hurlock, Surgeon, St. Paul's Church Yard
Joseph Harford, Esq. Bristol
Mr. Jacob Hagen, Dock-head
Mr. Thomas Henry, Apothecary, Manchester
Mr. John Harifon, Apothecary, Derby

THE LIST OF SUBSCRIBERS.

Mr. Richard Haworth, Apothecary, Chancery-lane, two setts
 Mr. Robert Holder, Apothecary, Strand
 Mr. Hoblyn, Christ-church. Oxford
 Mr. Thomas Horne, Peckham
 Mr. W. Henry Higden, Manchester-buildings, Westminster
 Mr. Hingeston, Apothecary, Cheap-side
 William Hird, M. D. Leeds
 Mr. Thomas Howard, Surgeon, Uxbridge
 Rev. Robert Harpur, British Museum
 Timothy Hollis, Esq. Great Ormond-street
 A. Hunter, M. D. York

—Head, Esq.
 Mr. John Hughes, Philpot-lane
 Thomas Horner, Esq. Mells-Park, Frome, Somerset.
 Robert Banks Hodgkinson, Esq. New Burlington-street
 Dr. Hairby, Spillsby, Lincolnshire
 Robert Hallifax, Esq. Apothecary, St. James's street
 John Halliday, Esq. Queen Ann-street, Cavendish-square
 Rev. Mr. Holcombe, Pembroke, South Wales
 Rev. Mr. Hemming, Twickenham
 Jonathan Heywood, Esq.
 John Scanderet Harford, Esq. Bristol
 Mrs. Harford, Bristol
 Mr. Robert Haynes, Bristol
 Leonard Troughear Holmes, Esq. Isle of Wight
 Mr. Thomas Hunt, Harleston
 —Hillman, Esq. East Clove, Hampshire

Mr. Jackson, Norwich
 Mrs. Jones, Hanover-square
 Robert Jenner, Esq. Doctors Commons
 John Ibbettson, Esq. Greenwich
 Mr. John Jones, Wrexham
 Mr. J. R. Jacob, Peterborough

Right Honourable Lady King, Dover-street, Piccadilly
 Rev. Dr. Kaye, Piccadilly
 Mrs. King, Blackheath
 Mr. Robert Kerby, Surgeon, Luton

Right Honourable Lord Loughborough, Lincolns-Inn-Fields
 John Gideon Loten, Esq.
 J. C. Lettson, M. D. Sambrook-House, Basinghall-street, two setts
 Rev. John Lightfoot, Uxbridge
 Mr. James Lee, Hammer-smith
 Mr. Longley, Apothecary, Broad street
 Mr. Timothy Lane, Apothecary, Aldersgate-street
 Rev. Mr. Lort
 Rev. James Lambert, M. A. Cambridge
 Abraham Ludlow, M. D. Bristol
 Mr. Laird, Tokenhouse-Yard
 Mr. Levy, Lincolns-Inn-Fields
 Mrs. Mary Leech, Knutsford
 Mr. Charles Lightfoot, Surgeon, Whitby

Right Honourable the Earl of Marchmont, Curzon-street, May-Fair
 Right Honourable James Stewart Mackenzie
 Sir William Musgrave, Bart. Arlington-street, Piccadilly
 Mr. Daniel Mildred, Savage Gardens, Tower-hill
 Mr. Robert Maddocks, Witney
 Mr. Malcolm, Kennington
 Benjamin Mee, junior, Esq. Fenchurch-street
 Edward Muffenden, Esq.
 Rev. Mr. Mills, Norbury, Derbyshire
 Capt. Manly, Woolwich
 Mr. Murrell, Cambridge
 John Monro, M. D. Bedford-square
 Mr. Matthews, Shelburne-House
 Major Morgan, Litchfield

His Grace the Duke of Northumberland
 Right honourable the Earl of Northington
 Dr. William Newcome, Bishop of Waterford
 Mr. Robert R. Newel, Surgeon, Colchester
 Rev. Mr. Newbery, Oxford
 William Norford, M. D. St. Edmunds Bury
 Mr. Nisbett, Surgeon, Great Marlborough-street

Craven Ord, Esq.

Her Grace the Duchess Dowager of Portland, Privy Gardens, 2 setts
 Right honourable the Earl of Plymouth, Bruton-street
 Honourable Mrs. Pitt, Arlington-street
 Sir James Pennymann, Bart. Park-street, Westminster
 William Pitcairn, M. D. Warwick Court
 Mrs. Petit, Great Marlborough-street
 Mr. Richard Prior, Budge-Row
 Mr. Giles Powell, Apothecary, South Audley-street
 Major Thomas Pearson
 Mr. William Parker, Fleet-street, two setts
 Rev. Mr. Pierfon Coxwold
 Mr. Patten, Surgeon, Ratcliffe-crofs
 —Peachy, Esq. Wimpole-street
 Mr. Payne, Pall Mall

Mr. William Pennington, Kendall
 Rogers Parker, Esq. Peterborough
 Joseph Pickford, Esq. Royton

Sir Alexander Ramsay, Bart. Fasque, Scotland
 Sir John Russell, Bart. Checkers. Bucks
 Thomas Ruggles, Esq. Cobham, Surry
 Samuel Rudge, Esq. Elstree, near Edgware
 Cornelius Rodes, Esq. Barlbrough Hall
 John Rawlinson, M. D. Watling-street
 Samuel Charles Reynardson, Esq. Great Ormond-street
 J. Rogers, Esq. Friday-hill House, near Woodford
 Rev. Mr. Relhan, A. M. Cambridge
 Rev. Peter Rashleigh, Maidstone
 Mr. Samuel Robinson, St. Thomas Apostles
 Mr. John Russell, Lewisham
 Colonel Ratcliffe

Right Honourable Sir Thomas Sewel
 Honourable Lady Stapleton, Grays Court, near Henly
 Sir George Saville, Leicester Fields
 D. C. Solander, M. D. British Museum
 Mr. James Severn, Apothecary, Carnaby-market
 Mr. George Stacey, Holborn
 Thomas Sykes, Esq. Hackney
 Mr. James Smith, Surgeon, Ramsay
 Mr. Stevens, Stains
 Mrs. Stevenson, Queen-square, Bloomsbury
 Richard Saunders, M. D. Spring Gardens
 W. Salkeld, Esq. Dorchester
 Messrs. Simmons and Co. Canterbury
 Mr. William Sole, Apothecary, Bath
 Mr. W. Shrive, Clare, Suffolk
 Mr. Robert Simpson, Apothecary, Bristol
 Francis Skipwith, Esq.
 Dr. Shaw, Aylesbury, Bucks
 Mr. Sibthorpe, junior, Oxford
 Mr. Edward Sewel, Cornhill
 E. Snellson, Nantwich
 Edward Salway, Esq. near Ludlow, Shropshire
 Mr. William Staniforth, Surgeon, Sheffield, Yorks

Honourable Mrs. Talbot, Little Hillingdon, near Uxbridge
 Honourable Wilbraham Tollemache, New Norfolk-street
 Thomas Tofield, Esq. Wilfick, near Doncaster, Yorkshire
 Marmaduke Tunstall, Esq.
 Mrs. Towers, Weald-Hall, near Brentwood, Essex
 Rev. Mr. La Trobe
 Mr. John Talwin, Surgeon, Royton
 Mr. Travis Surgeon, Scarborough
 John Till Adams, M. D. Bristol
 Mr. Vicker's Taylor
 Mr. Torre, Market Lane, St. James's
 R. Tilden, Esq. Milsted, near Sittingbourne, Kent

Right Honourable Lady Vernon, Portman-square
 James Vere, Esq. Bishopsgate-street
 Mrs. Vaston, Clapton
 Mr. Francis Upham, Apothecary, Greek-street, Soho

Right Hon. Lord Willoughby de Broke, Hill-street, Berkeley-square
 Lady Viscountess Weymouth
 Honourable and Reverend Mr. Wallop, Wallop near Andover
 William Weddel, Esq. Upper Brook-street
 Thomas White, Esq. South Lambeth, two setts
 Mr. William Wooton, Apothecary, Lower Brook-street
 Mr. John Woodd, Apothecary, Old Burlington-street
 Mr. Thomas Willis, Wapping
 Rev. Mr. Wood, Iver, Bucks
 Mr. Walter Williams, Attorney, Apothecaries-Hall
 Mr. William Williams, Apothecary, Bristol
 Rev. Edward White, junior, Yarmouth, Norfolk
 W. Wooldridge, Esq. Bath
 Rev. Dr. Whitfield, Fulham
 Rev. Mr. Whitear, St. Clement Hastings, Sussex
 —Watson, M. D. Bath
 Thomas Woodward, Esq. Bungay
 Rev. Mr. Woodford, Southampton.
 Mrs. Walker, Southgate
 Mr. Wingfield, St. Thomas's Hospital
 Mr. Winch, Chemist, Hay-market
 John Wightwick, Esq. Sandgate near Chertsey
 Thomas Walford, Esq. Wisbich-Hall, near Saffron-Walden, Eff
 Martin Wall, M. D. Oxford
 Mr. Benjamin White, Fleet-street
 Mr. Luke White, Dublin
 Mr. William Wetherell, Surgeon, Hampstead
 Mr. Whiting, Ratcliffe-crofs
 Rev. Thomas Walker, L. L. B. Islington
 The Honourable Thomas Wenman, Temple

William Young, Esq.
 Rev. Mr. James Yonge, Purflinch, near Plympton, Devon.

To the Right Honourable
J O H N S T U A R T,

Earl of B U T E, &c.

The MÆCENAS of the present Age:

This F I R S T V O L U M E

O F T H E

F L O R A L O N D I N E N S I S,

Begun under His Auspices,

And encouraged by His Liberality,

Is, with the sincerest Gratitude,

Inscribed, by

His most obliged,

Humble Servant,

W. C U R T I S.

C A T A L O G U E

Of certain Plants, growing wild, chiefly in the Environs of SETTLE, in York-shire, observed by *W. Curtis*, in a Six Weeks Botanical Excursion from London, made at the Request of *J. G. LETTSOM, M. D. F. R. S. &c.* in the Months of July and August, 1782.

1. *Hippuris vulgaris*. *Mare's-tail*.
Limnopeuce. *Raii Syn. ed. 2. p. 136.*
In the lakes on *Brigstear Moss*, about four miles from *Kendal* plentifully.
2. *Ligustrum vulgare*. *Privet*.
Raii Syn. p. 465.
In *Grass Wood*, near *Grassington*, about two miles from *Kilnsay*, not uncommon.
3. *Pinguicula vulgaris*. *Common Butterwort*.
Pinguicula Gessleri. Raii Syn. p. 281.
Common on every Bog.
4. *Utricularia vulgaris*. *Common-hooded Milfoil*.
Lentibularia. Raii Syn. p. 286.
In the greatest plenty with N° 1. flowers in *August*.
5. *Schœnus Mariscus*. *Long-rooted Bastard Cyperus*.
Cyperus longus inodorus sylvestris. Raii Syn. p. 426.
On the edge of *Conzie Tarn*, or Lake, about two miles from *Kendal*, in the greatest abundance, and highest perfection, some of the flowering stems growing to the height of four or five feet.
6. *Schœnus nigricans*. *Black Bog-rush*.
Juncus lævis minor panicula glomerata nigricante. Raii Syn. p. 430.
Plentifully on a Bog in *Skirritb Wood*, near *Ingleton*, and most other Bogs in the North.
7. *Schœnus compressus*. *Flat-headed Bog-rush*.
Gramen cyperoides spica simplici compressa disticha. Raii Syn. p. 425.
Not uncommon in wet boggy places about *Ingleton*, *Settle*, &c.; near *Giggleswick Tarn* in plenty; flowers in *August*.
8. *Schœnus albus*. *White Bog-rush*.
Cyperus minor palustris hirsutus paniculis albis paleacis. Raii Syn. p. 427.
On *Brigstear Moss*, n. 1. in abundance.
9. *Scirpus cespitosus*. *Heath Club-rush*.
Scirpus montanus capitulo breviori. Raii Syn. p. 429.
Frequent on Moors, amongst the Heath or Ling.
10. *Scirpus acicularis*.
Scirpus minimus capitulis equiseti. Raii Syn. p. 429.
On the edge of a rivulet near *Giggleswick Tarn*, which runs from the ebbing and flowing Well.
11. *Eriophorum vaginatum*. *Single-headed Cotton-grass*.
Juncus alpinus cum cauda leporina. Raii Syn. p. 436.
On Peat Bogs frequent, in the ascent to *Ingleborough Hill*.
12. *Melica Montana*. *Mountain Melic Grass*.
In *Skirritb Wood*, near *Ingleton*, and in *Grass Wood*, near *Kilnsay*, not uncommon.
13. *Festuca ovina var. vivipara*. *Viviparous Sheep's Fescue-grass*.
Gramen sparteum montanum spica foliacea graminea majus et minus. Raii Syn. p. 410.
On the crags near the summit of *Ingleborough*, and and on the rocks of *Longsledale*, about ten miles from *Kendal*, plentifully.
14. *Festuca elatior*. *Tall Fescue-grass*.
Gramen arundinaceum aquaticum panicula avenacea. Raii Syn. p. 511.
On the sides of the river *Ribble*, near *Settle*, plentifully.
15. *Bromus giganteus*. *Tall Brome-grass*.
Gramen avenaceum glabrum, panicula e spicis raris strigosis composita, aristis tenuissimis. Raii Syn. p. 415.
Plentifully under the stone walls in the road from *Settle* to *Giggleswick*, and elsewhere.
16. *Bromus hirsutus*. *Hairy-stalked Brome-grass; Fl. Lond.*
Gramen avenaceum dumetorum panicula sparsa. Raii Syn. p. 51. nemoralis, Hudson. Fl. Angl.
Not uncommon in the woods and hedges in York-shire, especially about *Carrend Wensleydale*.
17. *Triticum caninum*. *Bearded Wheat-grass*.
Gramen caninum aristatum radice non repente. Raii Syn. p. 58.
Plentiful with the last mentioned grass.
18. *Cynosurus cœruleus*. *Blue Dog's-tail grass*.
Gramen parvum montanum spica crassiore purpureo cœruleo brevi. Raii Syn. p. 399.
There is no character in this grass which would induce one to consider it as a *Cynosurus*. Several Botanists of the first eminence make a distinct genus of it, and apparently with much propriety. I first found it on the rocks near *Settle*, and afterwards on the rocks and tops of the hills generally in the North. From its being in seed when I discovered it, which was the latter end of *July*, it must be one of the earliest grasses in flower; and of all that I have ever seen is by far the most hardy. The *Poa pratensis*, in this respect, approaches the nearest to it, and is very similar in its foliage.
The Botanist and the Farmer are both interested in the further investigation of this alpine plant.
19. *Scabiosa columbaria*. *Mountain Scabious*.
Scabiosa minor vulgaris. Raii Syn. p. 191.
Frequent on all the lime-stone rocks.
20. *Plantago maritima*. *Sea Plantain*.
Plantago, an alpina angustifolia. Raii Syn. p. 315.
I found this plant very unexpectedly in the road leading from *Kilnsay* to *Arnclyff*, in great abundance; and afterwards discovered it on the sides of many of the mountains thereabouts. I could discover no difference betwixt it and the Sea Plantain growing at *Gravesend*.
21. *Sanguisorba officinalis*. *Great or Meadow Burnet*.
Sanguisorba major flore spadiceo. Raii Syn. p. 203.
Common in most of the pastures; in some of which it is the principal plant. The farmers were much divided in their opinions respecting its goodness. It produces a large, but late crop; grows frequently

- quently to the height of four or five feet; but its stalks are hard, and apparently unfit for fodder. Some have suspected this was the species recommended to have been cultivated some years since; but Dr. WATSON, whose authority will not be disputed, assures me, it was the lesser Burnet, whose chief excellence consists in affording foliage early in the spring, a property the present plant cannot boast of.
22. *Asperula cynanchica*. *Squinancy-wort*.
Rubeola vulgaris quadrifolia laevis, floribus purpurantibus. *Raii Syn. p. 225*.
On the lime-stone hills about *Conzie*, near *Kendal*.
23. *Galium montanum*. *Mountain Ladies Bed-straw*.
Mollugo montana minor Gallio albo similis. *Raii Syn. p. 224*.
The most general plant on all the Northern mountains. The summit of *Ingleborough* is principally covered with it and the *Juncus squarrosus*.
24. *Galium boreale*. *Cross-leaved Ladies Bed-straw*.
Mollugo montana erecta quadrifolia. *Raii Syn. p. 224*.
Plentiful on the hills betwixt *Kilnsay* and *Grafs Wood*, more especially among some rocks in *Grafs Wood*.
25. *Alchemilla vulgaris*. *Common Ladies Mantle*.
Alchimilla, *Raii Syn. p. 158*.
There is scarce a pasture or moist bank in Yorkshire on which this pretty plant does not occur.
26. *Alchemilla alpina*. *Mountain Ladies Mantle*.
Alchimilla alpina pentaphyllos. *Raii Syn. p. 158*.
This species, which far excels the other in beauty, is by no means so frequent. I first found it on a hill called *Lime-stone Knot*, in *Longsledale*, a place mentioned by *WILSON*, in his *Synopsis*, further on in *Longsledale*, or, as it is there called, *Longsleddel*, on the high and romantic rocks about *Buckbarrow Well* the Botanist will find it in abundance.
27. *Potamogeton setaceum*. *Setaceous Pond-weed*.
In the ditches on *Brigstear Moss*, with the *Utricularia* plentifully.
28. *Anchusa sempervirens*. *Ever-green Alkanet*.
Buglossum latifolium sempervirens. *Raii Syn. p. 227*.
From the paucity of places in which this plant was said to have been found wild, and the suspicion which rested on some of those, I had entertained doubts of its being a native of this country: those were entirely removed on my finding it tolerably plentiful in the lanes about *Giggleswick*, and in the road between *Settle* and *Ingleton*.
29. *Primula farinosa*. *Birds Eye*.
Verbasculum umbellatum alpinum minus. *Raii Syn. p. 285*.
Grows every where with the *Pinguicula*. A variety, with white blossoms, has not unfrequently been found; in a Bog in *Skirriith Wood*, near *Ingleton*, I gathered specimens a foot and a half high.
30. *Anagallis tenella*. *Bog Pimpernel*.
Nummularia minor flore purpurascens. *Raii Syn. p. 283*.
Common on the Bogs. The largest and finest plants I ever saw of this species, grew in a bog betwixt *Kendal* and *Longsledale*.
31. *Polemonium caeruleum*. *Jacob's Ladder*.
Polemonium vulgare caeruleum et album. *Raii Syn. p. 288*.
In tolerable plenty at *Malham*, or, as it is there called, *Maum Cove*, by the side of the rivulet which springs from the base of that stupendous rock. I found this plant also in much greater plenty in *Conistone Dib*, in a low wood, under shelter of some high and romantic rocks, a situation it seems to affect. Also on *Arner Scar*, on the left-hand between *Kilnsay* and *Arnclyff*.
32. *Samolus valerandi*. *Water Pimpernel*.
Samolus valerandi. *Raii Syn. p. 283*.
Observed a few specimens on *Brigstear Moss*.
33. *Campanula latifolia*. *Giant Bell-flower*.
Campanula maxima foliis latissimis. *Raii Syn. p. 276*.
Extremely common about *Settle* and elsewhere, under the stone-walls and hedges. The country people improperly call them Fox-gloves.
34. *Ribes rubrum*. *Common Currants*.
Ribes vulgaris flore rubro. *Raii Syn. p. 456*.
On the edges of the wet ditches, and in the Woods about *Carr End*, *Wensleydale*.
35. *Gentiana amarella*. *Autumnal Gentian*.
Gentianella pratensis flore lanuginoso. *Raii Syn. p. 275*.
Common on lime-stone hills and pastures.
36. *Ulmus campestris* var. γ *Hudson. Wych Elm*.
Ulmus folio latissimo scabro. *Raii Syn. p. 469*.
Common in Hedges and Woods. It is much superior in size and beauty to the common Elm, and deserves to be more generally cultivated.
37. *Oenanthe crocata*. *Hemlock-water Drop-wort*.
Oenanthe cicutæ facie lobelii. *Raii Syn. p. 210*.
In the wet ditches betwixt *Kendal* and *Longsledale*, and in similar situations, in many parts of Yorkshire.
38. *Scandix odorata*. *Sweet Cicely*.
Cerefolium magnum sive Myrrhis. *Ger. emac. p. 1039*.
This plant is not mentioned by Mr. RAY in his *Synopsis*; and Mr. HUDSON introduces it as a doubtful native. The situations in which I found it clearly convinced me, it had a good title to be considered as a native of Great Britain; and I was confirmed in my opinion by the common people, who find it wild in many places in the greatest plenty, and call it by the name of *Sweet-cifs*, an abbreviation of *Cicely*. They rub their furniture with it, to give it a gloss. It is common under the stone-walls about *Settle*, at the entrance into *Kilnsay*, and in *Whitfell Gill*, near *Askrig*.
39. *Pimpinella Saxifraga*. *Burnet Saxifrage*.
Pimpinella saxifraga minor, foliis sanguisorbæ. *Raii Syn. p. 213*.
Very frequent in the fissures of the Lime-stone Rocks about *Settle*.
40. *Parnassia palustris*. *Grass of Parnassus*.
Parnassia vulgaris et palustris. *Raii Syn. p. 555*.
Very common in Bogs and wet Meadows.
41. *Drosera rotundifolia*. *Round-leaved Sun-dew*.
Ros folis folio rotundo. *Raii Syn. p. 356*.
42. *Drosera longifolia*. *Long-leaved Sun-dew*.
Ros folis folio oblongo. *Raii Syn. p. 356*.
I found these two species plentifully in the North; but no where in greater plenty, or perfection, than on *Brigstear Moss*, near *Kendal*, where they grow to twice or thrice the size they usually acquire with us; but in other respects appeared to me to afford no truly specific character. It is very probable, that the three species enumerated in RAY, in addition to the above, will be found to be varieties only.
43. *Allium arenarium*? *Sand Garlic*.
Allium sylvestre amphicarpon foliis porraceis, floribus et nucleis purpureis. *Raii Syn. p. 370*.
44. *Allium oleraceum*? *Herbaceous Garlic*.
Allium sylvestre bicornis flore ex herbaceo albicante cum triplici in singulis petalis stria atropurpurea. *Raii Syn. p. 370*.
These two species of Garlic being out of flower when discovered, I dare not be positive about them. The first grew sparingly, in a pasture at the back of the stables belonging to the *Dun Horse*, *Ingleton*, kept by Mr. Warner, at whose house every traveller finds himself at home. The latter grew also sparingly among rocks, in the *Girling Trough*, near *Conistone*, *Kilnsay*.
45. *Anthericum ossifragum*. *Lancashire Asphodel*.
Phalangium anglicum palustre Iridis folio. *Raii Syn. p. 375*.

Extremely

- Extremely common in all Bogs and moonish Grounds, which in July and August are beautifully decorated with its blossoms.
46. *Convallaria Polygonatum*. Sweet Solomon's Seal. *Polygonatum floribus ex singularibus pediculis*. Raii Syn. p. 263.
In the rocky part of Sykes Wood, near Ingleton, sparingly.
47. *Juncus Sylvaticus*. Great hairy Wood Rush. *Gramen nemorosum hirsutum latifolium maximum*. Raii Syn. p. 416.
In Whitfell Gell, near Askrig, plentifully: also near the bottom of a mountain called the Rye-loaf, near Settle, where no wood was growing, but probably had grown.
48. *Triglochin palustre*. Arrow-headed grass. Common in marshy places.
49. *Rumex digynus*. Mountain Sorrel. *Acetosa rotundifolia repens Eboracensis, folio in medio deliquium patiente*. Raii Syn. p. 143.
Found sparingly in the spot mentioned by RAY, close by Buckbarrow Well, in Longsledale, on the edge of a deep rivulet abounding in waterfalls. The *Rumex scutatus* of LINNÆUS is very common in the gardens in Yorkshire: I have sometimes seen it in situations which have tempted me to think it an indigenous plant.
50. *Colchicum autumnale*. Meadow Saffron. *Colchicum commune*. Raii Syn. p. 373.
Not uncommon in the meadows in Yorkshire. I found it in a pasture close by Milscur Lush, near Kilnsay, Mr. WM. FOTHERGILL, of Carr End, informed me, that it grew plentifully in a meadow near West Witton, Wensleydale.
51. *Alisma ranunculoides*. Small Water Plantain. *Plantago aquatica minor*. Raii Syn. p. 357.
In Giggleswick Tarn plentifully.
52. *Epilobium angustifolium*. Rose-bay Willow-herb. *Lyfimachia speciosa quibusdam Onagra dicta filiquosa*. Raii Syn. p. 310.
In Grays Wood, near Kilnsay, among the rocks, plentifully in one particular spot.
53. *Epilobium alpinum*. Alpine Willow-herb. *Lyfimachia filiquosa glabra minor latifolia*. Raii Syn. p. 311.
On the moist rocks about Buckbarrow Well.
54. *Vaccinium Myrtillus*. Blea-berry. *Vitis idæa angulosa*. Raii Syn. p. 457.
Common on all the Heaths, Rocks, and Mountains.
55. *Vaccinium Vitis idæa*. Red Bil-berry. *Vitis idæa sempervirens fructu rubro*. Raii Syn. p. 457.
Not uncommon on Heaths, yet seldom found in blossom.
56. *Vaccinium Oxycoccus*. Cran-berry. *Oxycoccus s. Vaccinia palustria*. Raii Syn. p. 267.
Frequent on the boggy mosses about Settle, Kendal, and elsewhere in the North.
57. *Polygonum viviparum*. Viviparous Bistort. *Bistorta minor*. Raii Syn. p. 147.
On the edge of Semer Water, an extensive tarn at Carr End, Wensleydale.
58. *Paris quadrifolia*. Herb Paris, or True-love. *Herba Paris*. Raii Syn. p. 264.
In Kelkoe Wood, near Settle, and most of the woods thereabout.
59. *Pyrola rotundifolia*. Common Winter-green. In the enchanting woods of Hackfall, near Grewelthorpe, in tolerable plenty. Sparingly in Raydale Wood, near Carr End, Wensleydale; also in Tenants Wood, near Kilnsay.
60. *Saxifraga stellaris*. Hairy Kidney-wort. *Geum palustre minus foliis oblongis crenatis*. Raii Syn. p. 354.
Not uncommon on the moist rocks and boggy ground about Buckbarrow Well, Longsledale; a few plants in blossom, but mostly in seed.
61. *Saxifraga oppositifolia*. Purple Saxifrage. *Saxifraga alpina ericoides, flore cæruleo*. Raii Syn. p. 353.
On the craggy rocks of Ingleborough and Pennigent plentifully, in particular spots.
62. *Saxifraga autumnalis*. Autumnal Saxifrage. *Saxifraga alpina angustifolia, flore luteo guttato*. Raii Syn. p. 353.
On the moist rocks of Ingleborough sparingly. In the greatest plenty in Longsledale; also in Whitfell Gill, near Askrig, most beautifully in blossom.
63. *Saxifraga hypnoides*. Trifid Saxifrage — Ladies Cushion. *Saxifraga muscosa trifido folio*. Raii Syn. p. 354.
On the mountains about Settle plentifully, and most of the mountains in the North.
64. *Arenaria verna*. Mountain Sandwort or Chickweed. *Alfina pusilla pulchro flore folio tenuissimo nostras*. Raii Syn. p. 351.
Generally with the last mentioned plant. I always found it a sure indication of elevated ground.
65. *Sedum anglicum*. English Stonecrop. *Sedum minimum non acre flore albo*. Raii Syn. p. 271.
On some rocks in Longsledale, on the left hand side going down the vale; observed it on a few rocks only.
66. *Sedum villosum*. Hairy Stonecrop. *Sedum purpureum pratense*. Raii Syn. p. 270.
On the side of Ingleborough sparingly, in the Bogs where the springs originate; but in much greater plenty in similar situations about Carr End, Wensleydale.
67. *Spergula nodosa*. Knotted Spurrey. *Alfina palustris foliis tenuissimis, seu Saxifraga palustris anglica*. Raii Syn. p. 350.
Common on the Bogs about Settle, and similar situations in the North.
68. *Prunus Padus*. Bird Cherry. *Cerasus avium nigra et racemosa*. Raii Syn. p. 463.
In the woods about Ingleborough, and elsewhere in the North, plentifully.
69. *Cratægus Aria*. White Beam Tree. *Mespilus alni folio subtus incano, Aria Theophrasti dicta*. Raii Syn. p. 453.
Common in the mountainous woods in the North; loves a dry situation.
70. *Rosa villosa*. Apple Rose. *Rosa sylvestris pomifera major nostras*. Raii Syn. p. 454.
In Grays Wood, near Kilnsay, and in several other woods.
71. *Rubus idæus*. Raspberry. *Rubus Idæus spinosus fructu rubro*. Raii Syn. p. 467.
Plentiful in the above mentioned wood.
72. *Rubus saxatilis*. Stone Bramble. Not unfrequent in the mountainous woods about Settle and Ingleton; but no where in greater perfection than near the summit of Helsfeltnab, near Kendal.
73. *Rubus Chamæmorus*. Cloud-berry. *Chamæmorus*. Raii Syn. p. 260.
On the sides of the highest mountains about Settle and Ingleton, especially on the Rye-loaf, within a few miles of the former, where I gathered its berries in the greatest perfection, and found the caterpillar of the Emperor Moth (*Phalæna pavonia*) feeding on its foliage.
74. *Potentilla verna*. Spring Cinquefoil. *Pentaphyllum parvum hirsutum*. Raii Syn. p. 255.
My very obliging friend Mr. WM. FOTHERGILL, of Carr End, shewed me this plant growing sparingly on an old stone-wall at Carlou-nick, adjoining the west-end of the Crag Pasture, about half a mile from Carr End. I have the best authority for believing, that the *Potentilla opaca* of Mr. HUDSON is no other than this plant.
75. *Geum rivale*. Water Avens. *Caryophyllata montana purpurea*. Raii Syn. p. 253.
In the Pastures, Woods, &c. about Settle and elsewhere much more common than the *urbanum* is with us.

76. *Dryas octopetala*. Mountain Dryas.
Caryophyllata alpina chamædryos folio. *Raii Syn.* p. 253.
This beautiful plant, heretofore known to be only a native of Scotland and Ireland, I found plentifully in seed on *Arnclyff Clouder*, a mountain within half a mile of *Arnclyff*, in *Littendale*, a few miles from *Kilnsay*.
77. *Comarum palustre*. Marsh-cinquefoil.
Pentaphylloides palustre rubrum. *Raii Syn.* p. 256.
In *Giggleswick Tarn*, near *Settle*, plentifully, and other marshy places.
78. *Actæa spicata*. Herb Christopher, or Bane-berry.
Christophoriana. *Raii Syn.* 262.
I am indebted to Mr. WM. FOTHERGILL, before-mentioned, for pointing out to me a most delightful herborizing spot, viz. a Glen or Gill, called *Whitfell Gill*, or *Arthur Foss*, situated within a small distance of *Afkrig*. In this sheltered valley, ornamented with an enchanting water-fall, many rare plants grew in the utmost luxuriance. Here I found, in abundance, this poisonous plant lurking, and half concealing its dark glossy berries, not unaptly resembling those of coffee, but more beautiful, and within reach of my arm, around one plant of it, the following, viz. *Scandix odorata*, *Saxifraga autumnalis*, *Ribes rubrum*, *Rubus idæus*, *Rubus saxatilis*, *Prunus Padus*, *Juncus sylvaticus*. What a treat for a Botanist! What a recompence for one of the roughest journeys over Cam, perhaps, ever experienced! August 16.
79. *Aquilegia vulgaris*. Common Columbine.
Aquilegia. *Raii Syn.* p. 273.
Found among some lime-stones on the upper part of the *Girling Trough*, near *Conistone*, *Kilnsay*, out of bloom. It possibly might be the *alpina*.
80. *Thalictrum minus*. Lesser Meadow-Rue.
Thalictrum minus. *Raii Syn.* p. 203.
In *Skirrit Wood*, near *Ingleton*, sparingly. In great plenty on the mountainous ground about *Kilnsay* and many other places in the north.
81. *Trollius europæus*. Globe-flower, Locker-gowlons.
Ranunculus globosus. *Raii Syn.* p. 272.
In *Skirrit Wood*, and the moist woods about *Settle*, in great abundance.
82. *Galeopsis tetrahit* var. 3. Nettle Hemp.
Lamium cannabino folio, flore amplo luteo; labio purpureo. *Raii Syn.* p. 241.
This elegant variety is found sparingly in the Corn-fields about *Settle*.
83. *Draba muralis*. Speed-well-leaved Whitlow-grass.
Burfa pastoris major loculo oblongo. *Raii Syn.* p. 292.
On *Arnber Scar*, near *Arnclyff*, in *Littendale*, and at *Malham Cove*, sparingly.
84. *Draba incana*. Wreathen-podded Whitlow-grass.
Lunaria contorta major. *Raii Syn.* p. 291.
Very common on the rocks about *Settle*, and similar situations elsewhere.
85. *Thlaspi montanum*. Mountain Thlaspi.
Thlaspi foliis globulariæ. *Raii Syn.* p. 305.
On the mountainous pastures in the road from *Settle* to *Malham*, within about half a mile of the Tarn, plentifully, with the *Arenaria verna*, mostly in seed. I fought for it in vain in the pastures about the ebbing and flowing well.
86. *Cochlearia officinalis*. Common Scurvy-grass.
Cochlearia. *Raii Syn.* p. 303.
Common by the river *Ribble*, near *Settle*, and on the mountains thereabout. In the latter situation it is very dwarfish, and is the *grælandica* of LINNEUS.
87. *Turritis hirsuta*. Hairy Tower Mustard.
Turritis muralis minor. *Raii Syn.* p. 294.
On old castles, walls, and rocks, about *Settle* and *Ingleton*, common.
88. *Cardamine impatiens*. Impatient Ladies-Smock.
Cardamine impatiens, vulgo sium minus impatiens. *Raii Syn.* p. 299.
89. *Geranium sylvaticum*. Wood Cranebill.
Geranium batrachoides montanum nostras. *Raii Syn.* p. 360.
In the woods and pastures about *Settle* and *Ingleton* not uncommon; also in *Longsledale*; and about *Carr End*, Mr. W. FOTHERGILL informs me, it is so common as to empurple the pastures when in full bloom.
90. *Geranium sanguineum*. Bloody Cranebill.
Geranium hæmatodes. *Raii Syn.* p. 360.
In rocky mountainous woods very common, as in *Kelkoe Wood*, near *Settle*, in *Grass Wood*, and in the road from thence to *Kilnsay*, in the greatest plenty.
91. *Geranium columbinum*. Long-stalked Cranebill.
Geranium columbinum, dissectis foliis, pediculis florum longissimis. *Raii Syn.* p. 359.
92. *Geranium lucidum*. Shining Cranebill.
Geranium saxatile. *Raii Syn.* p. 361.
Common on the stone-fences about *Settle* and elsewhere.
93. *Fumaria claviculata*. Climbing Fumitory.
Fumaria alba latifolia. *Raii Syn.* p. 335.
Plentifully on a thatched Farm-house in *Longsledale*, on the left-hand side, going down the vale.
94. *Vicia sylvatica*. Wood Vetch.
Vicia sylvatica multiflora. *Raii Syn.* p. 322.
I found one root only of this beautiful plant in full blossom in *Skirrit Wood*, near *Ingleton*.
95. *Hippocrepis comosa*. Horse-shoe Vetch.
Ferrum equinum germanicum filiquis in summitate. *Raii Syn.* p. 321.
Grows in abundance out of the lime-stone rocks, near *Giggleswick*, *Settle*, and *Kilnsay*.
96. *Trifolium alpestre*. Long-leaved Clover.
Trifolium purpureum majus, foliis longioribus et angustioribus, floribus saturationibus. *Raii Syn.* p. 328.
In *Skirrit* and other mountainous woods and pastures in the North, most plentifully.
97. *Hypericum montanum*. Mountain St. John's Wort.
Hypericum elegantissimum non ramosum folio lato. *Raii Syn.* p. 343.
In *Syke's Wood*, near *Ingleton*, and other mountainous woods, not uncommon.
98. *Hieracium murorum*. Wall Hawkweed, or Golden Lung-wort.
Hieracium murorum folio pilosissimo. *Raii Syn.* p. 168.
On the rocks near the water-fall at *Aysgarth Force*, and, if I mistake not, on *Kilnsay Crag*.
99. *Hieracium subaudum*. Shrubby Hawkweed.
Hieracium fruticosum latifolium hirsutum. *Raii Syn.* p. 167.
This plant, in its usual state is extremely common. A variety, whose leaves are spotted with red, and which is sometimes mistaken for the *Hypochaeris maculata*, is frequent on the rocks in *Grass Wood* and at *Gordel*.
100. *Carduus helenioides*. Melancholy Thistle.
Cirsium britannicum Clusii repens. *Raii Syn.* p. 193.
In a coppice near *Giggleswick* and in *Skirrit Wood*, plentifully. In the pastures about *Bordley*, near *Malham*, so plentiful as to empurple the pastures, so striking in its foliage, and so noxious in its effects, as to attract the notice of the husbandmen, who call them *White-backs*.
101. *Viola palustris*. Marsh Violet.
Viola palustris rotundifolia glabra. *Raii Syn.* p. 364.
In *Giggleswick Tarn*, and other marshy situations, common.
102. *Viola grandiflora*. Yellow Pansie.
Viola montana lutea grandiflora nostras. *Raii Syn.* p. 356.
In mountainous pastures frequent, about *Attamire Cliffs*, near *Settle*.

103. *Orchis bifolia*. *Butterfly Orchis*.
Orchis alba bifolia minor calcar oblongo. *Raii Syn.* 380.

In the hilly pastures above *Stackhouse* and on *Mill Island*, near *Settle*, plentifully; and in many other pastures, fully blown.

104. *Orchis conopsea*. *Sweet Orchis*.
Orchis palmata rubella cum longis calcaribus rubellis. *Raii Syn.* 380.

On *Mill Island* and most of the pastures with the former, fully blown.

105. *Satyrium viride*. *Frog Orchis*.
Orchis palmata minor flore luteo-viridi. *Raii Syn.* 381.

Frequent on the most hilly pastures about *Settle*, in full bloom.

106. *Ophrys muscifera*. *Fly Orchis*.
Orchis myodes galea et alis herbidis. *Raii Syn.* 399.

On the hilly lime-stone pastures at *Stackhouse*, near *Settle*, plentifully; in *Skirritb Wood*, sparingly. Mr. ROBERT KIDD, of *Ashton* near *Gargrave*, shewed me one he had gathered in a wild state, two feet and a quarter high, with fourteen blossoms on it. He also shewed me a great number of the *Ophrys apifera*, or *Bee orchis*, a rare plant with them; but whose place of growth he did not care to divulge.

107. *Cypripedium Calceolus*. *Ladies Slipper*.
Calceolus mariae. *Raii Syn.* 385.

The beauty and extreme singularity of the blossoms of this plant, joined to its great scarcity, have occasioned it to be universally sought after by Botanists and others; who, not content with contemplating its beauties in its native soil, are anxious to see it grow in their gardens, in which, however, they are generally disappointed, as it very rarely thrives on transplanting. We saw, indeed, a few instances to the contrary in some gardens in *Yorkshire*. To this rage for the *Ladies Slipper* we may attribute its present scarcity in *Helk's Wood* near *Ingleton*, where it used to be found in plenty. We were fortunate enough to discover this plant in considerable plenty in the neighbourhood of *Kilnsay*, not only in the Woods with its usual attendant, the red-flowered *Helleborine*, but also in hilly pasture ground, with the *Ophrys ovata*; but as some gardeners in the neighbourhood had discovered them, and were unremittingly employed in digging up every one they found, we may venture to prophecy, that in a few years they will be rarely found here also.

108. *Serapias palustris*.
Helleborine palustris nostras. *Raii Syn.* 384.

In the boggy part of *Syke's Wood* plentifully; also near *Kilnsay*, and many other boggy situations. To us it appears to be a very distinct species. Flowers in July.

109. *Serapias purpurascens*.
Helleborine altera atro-rubente flore. *Raii Syn.* 383.

This species is found in *Syke's Wood*; and is common to most of the woods in the North, especially such as are mountainous and rocky; it produces a long spike of red or purplish flowers, the beginning of August. This species is frequently mistaken for the *Ladies Slipper*.

110. *Sparganium natans*. *Small Burr-reed*.
Sparganium non ramosum. *Raii Syn.* 437. 2. 3.

In the lakes on *Brigsteer Moss*, with the *Hippuris* and *Utricularia*, not uncommon.

111. *Carex pulicaris*. *Flea Carex*.
Gramen cyperoides minimum, feminibus deorsum reflexis puliciformibus. *Raii Syn.* 24.

On the sides of *Ingleborough* and other mountainous situations tolerably frequent.

112. *Carex distans*. *Loose Carex*.
Gramen cyperoides spicis parvis longissime distantibus. *Raii Syn.* 421.

This most variable *Carex* we found in almost every situation. on the edge of *Giggleswick Tarn* it grew with the *panicea* plentifully. I also found it on dry ground near the tops of the highest mountains. Some specimens, in particular, a yard in height, I gathered near the summit of a lofty rock in *Longsledale*.

113. *Carex vesicaria*. *Bladder Carex*.
Gramen cyperoides polystachion majus, spicis teretibus, erectis. *Raii Syn.* 419.

We do not recollect finding this species nearer *London* than *Virginia Water*. In the North it is a common *Carex* on the edges of tarns and rivulets. It abounds in *Giggleswick Tarn*, a spot fertile in Carices, and on the borders of *Semer Water*, *Wensledale*.

114. *Carex gracilis*, Fl. Lond. *Slender-spiked Carex*.
Gramen cyperoides majus angustifolium. *Raii Syn.* 417.

In great plenty on the borders of *Conzie Tarn* near *Kendal*.

115. *Salix Pentandra*. *Sweet Willow*.
Salix folio laureo, seu lato glabro odorato. *Raii Syn.* 449.

About *Kilnsay*, and more especially about *Carr End Wensledale*, this is the most common species of Willow, and is much used for making the larger sort of baskets. Its leaves are glossy, and exhale an odoriferous perfume in hot weather, which, joined to the beautiful appearance of the male-tree when in bloom, and the female when in seed, render it one of the most desirable trees our island naturally produces.

116. *Salix helix*. *Spurge-leaved Willow*.
Salix humilior, foliis angustis subcæruleis ex adverso binis. *Raii Syn.* 448.

Equally common with the foregoing, and used for making the finer sorts of basket-work.

117. *Salix rosmarinifolia*.
We have no doubt but the Willow, to which we assign this name, is a species perfectly distinct. It approaches nearest to the *vitellina*. Its twigs are remarkably tough. We found it on the edge of a rivulet which runs into *Semer Water*, *Wensledale*. As cuttings of this and the two following Willows, introduced into our garden, have grown, we hope to be able to speak more decisively on them at some future period.

118. *Salix myrsinites*?
One small shrub of this species, which corresponds with the description Mr. LIGHTFOOT gives of the *Myrsinites*, we found with several of the following on the slope of a high hill betwixt *Kilnsay* and *Arncliffe*.

119. *Salix arenaria*.
120. *Empetrum nigrum*.
Empetrum montanum fructu nigro. *Raii Syn.* 444.

On the sides of *Ingleborough* plentifully.

121. *Taxus baccata*. *Yew-tree*.
Taxus. *Raii Syn.* 445.

Growing in a truly wild state out of the clefts of the rocks on *Giggleswick Scar*. Dr. ABRAHAM STURCLIFFE, of *Settle*, to whose kind hospitality and useful information I am much indebted, was an eye-witness to the fatal effects of this plant on two *Bullocks*, who had carelessly been suffered to feed on its foliage.

122. *Acer Pseudoplatanus*. *Sycamore Maple*.
Acer majus. *Raii Syn.* 470.

Very common in woods, hedges, and round gentleman's seats, the latter from its quick growth, its great size, and power of resisting the most violent storms without injury, it is admirably calculated to preserve. Its wood, though seldom used in building, is applied to many æconomical purposes.

123. *Ophioglossum vulgatum*. *Adders-tongue*.
Ophioglossum. *Raii Syn.* 128.

- In meadows and by the sides of rivulets much more frequent than with us.
124. *Osmunda Lunaria*. Moon-wort.
Lunaria minor. *Raii Syn.* 128.
 On *Mear Bank* by *Sykes' Wood*, *Ingleton*, and other places, with the frog Orchis, not unfrequent.
125. *Osmunda crispa*. Stone-fern.
Adiantum album crispum alpinum. *Raii Syn.* 126.
 Among the stones about *Buckbarrow Well* in *Long-fledale*, in the utmost abundance, and here and there on the walls betwixt that spot and *Kendal*.
126. *Asplenium Scolopendrium*. Harts-tongue.
Phyllitis. *Raii Syn.* 116.
 Between the fissures of the rocks on the tops of most of the high mountains.
127. *Asplenium Ruta muraria*.
Ruta muraria. *Raii Syn.* 122.
 On the rocks about *Settle*, and elsewhere, very common.
128. *Asplenium Trichomanes*. Common Maiden-bair.
Trichomanes. *Raii Syn.* 119.
 Very common on the rocks and stone fences.
129. *Polypodium Phegopteris*. Wood Polypody.

- Filix minor Britannica* pediculo pallidior, alis inferioribus deorsum spectantibus. *Raii Syn.* 122.
 We found one plant of this rare species among our dried specimens, but do not recollect its place of growth; suspect we took it for the following, with which it has some similarity in its general appearance.
130. *Polypodium Dryopteris*. Branched Polypody.
Filix ramosa minor. *Raii Syn.* 125.
 We observed this species in tolerable plenty about *Kilnsay*, particularly among loose lime-stones on the right-hand side of the *Girling Trough* near *Conistone*.
131. *Polypodium fragile*. Brittle Polypody.
Filix saxatilis caule tenui fragile. *Raii Syn.* 125.
 Extremely common on old castles, stone fences, &c. about *Settle* and elsewhere.
132. *Lycopodium Selago*. Fir Club-moss.
Selago foliis et facie abietis. *Raii Syn.* 106.
133. *Lycopodium alpinum*. Mountain Club-moss.
Lycopodium Sabinæ facie. *Raii Syn.* 108.
 Both of these species are found in abundance near the summit of *Ingleborough*.

In the course of our excursions we could not avoid noticing, *en passant*, an almost infinite number of *Mosses*, *Lichens*, &c. which particularly abound in most of the spots we visited; but as few of them were in fructification, and as the larger plants were altogether sufficient to engross our attention, we must defer gratifying the curious Cryptogamist till an opportunity presents itself of revisiting these delightful regions at a different period of the year.

We may remark, that the *Allium*, which we supposed to be the *oleraceum*, proved, on flowering, to be the *carinatum*; and that the *Potentilla*, which has not yet flowered, seems, from its foliage, as if it would prove either a singular variety of the *verna*, or a distinct species.

T H E

P R E F A C E.

ALTHOUGH the Author does not here mean to give a Preface at large, reserving that until the first volume, containing thirty-six numbers or two hundred and sixteen plants, shall be compleated; yet he presumes it will be satisfactory to his subscribers, and the public, to be informed a little more fully of the nature and design of the work; as it will also give him an opportunity of answering some few objections that have been made to the plan of it.

The primary design of it then, is to facilitate a knowledge of the plants of our own country, and establish each species and variety on a firm basis: this the Author considers as the grand desideratum at present; this arduous task once accomplished, a way will be opened, and a foundation laid for numberless improvements in Medicine, Agriculture, &c.

To be enabled to do this, he means to take the greatest pains in the examination of those plants which he figures; to have them drawn from living specimens most expressive of the general habit or appearance of the plant as it grows wild; to place each plant, as much as is consistent, in the most pleasing point of view; and to be very particular in the delineation and description of the several parts of the flower and fruit, more especially where they characterize the plant.

And in order that he may obtain a more perfect knowledge of each plant; that he may see it in every stage of its growth, from the germination to the maturity of its seed; that he may compare and contrast the several species together; that he may make experiments to elucidate the nature of such as are obscure, or bring into more general use those which bid fair to be of advantage to the public; he is now cultivating each of them in a garden near the city, into which, by the kind assistance of his friends, he has already introduced, in the course of one year, about five hundred different species, including sixty of that most valuable tribe of plants the grasses.

Although the ascertaining and fixing of the plants will be his principle object, yet to make the work more useful to the public, as well as instructive and entertaining to the young botanist, his utmost endeavours will be used to lay before them whatever may be found *useful* in old botanic writers; and here they must not be surprized to find many of the numerous and imaginary virtues, which they attributed to almost every plant, purposely omitted: the discoveries made by modern authors, particularly relative to *Agriculture* and *Rural Oeconomy*, will be carefully attended to; as here seems to be a field just opening to view, from whence the public is likely to draw great and lasting advantages: and as a knowledge of the plants themselves is first necessary, and for want of which, indeed, the experimental farmer cannot effectually communicate his improvements, he finds himself peculiarly happy in contributing his share to the public good.

He is nevertheless sensible how inadequate his abilities, or indeed the abilities of any *one* person are, to render a work of this kind any ways compleat; he therefore respectfully solicits the assistance of those, who wish well to the improvement of *English Botany* and *English Agriculture*: any information they shall be pleased to communicate, shall with those favours he has already received from divers of his friends, be gratefully acknowledged; and to induce them the more readily to communicate, he has subjoined a catalogue of those plants which (with many others) are already drawn, and which he intends shall form the next Fasciculus.

He is sorry it has not been in his power to publish his numbers so fast as was originally proposed: the delay has chiefly been occasioned by the loss of one of his principal artists, whose place is now supplied by two others equally eminent; so that the drawing and engraving, which before fell to the share of one person, being now divided betwixt two, he flatters himself he shall be able to publish a number once a month, or six weeks at farthest—he is however determined never to sacrifice the accuracy or utility of the work to hurry—on this principle he has been at the expence of having some of his plates engraven twice, and even three times over before he could venture to publish them. As the delay has originated from this source, he hopes none of his subscribers that have hitherto so generously contributed to the carrying on of the work, will withdraw that assistance, which alone can enable him to prosecute it with advantage to the public, credit to himself, and satisfaction to them.

It now remains to obviate some few objections which have been made to the plan of this work; and first, it has been suggested to the Author, that it would have been better received, if, instead of pursuing the present plan, he had published those plants only which were not figured in the *Flora Danica*, a work now carrying on in *Denmark* under the auspices of the *King*: but a few moments reflection, must he presumes be sufficient, to convince every unprejudiced person, how inadequate such a partial publication would have been to the making a knowledge of the plants of our country more general among ourselves—at best such a work could only answer the purpose of those few individuals who are in possession of that part of the *Flora Danica* already published; and as that is still going on, there is no doubt but the same plants would be published by both Authors; thus, the *Butomus umbellatus*, *Solanum Dulcamara*, and *Eryum hirsutum*, have been published in the *Flora Danica* since they were published in the *Flora Londinensis*, so that in the end even those persons would be obliged to purchase duplicates of the same plant.

Another reason why the Author could not adopt the plan proposed to him, was the limited scale of the *Flora Danica*, which contains the figures and names of the plants only, but gives us no account of their properties, nor teaches us how to distinguish the difficult plants from one another; the plates likewise being *small folio*, cannot admit many of the plants of their natural size, several of the grasses for instance, as the *Festuca fluitans* and *Aira aquatica* are obliged to be so cut and diminished as scarcely to be known. Many other objections might be urged without any view to depreciate a work which, though not so compleat in some respects as could be wished, has exceeding great merit:—but these will probably be deemed sufficient.

THE PREFACE.

The engraving of one plant only on each plate has been another objection which some have strongly urged, while others have in as warm terms testified their approbation of it. It may be proper to mention, that whether one or more had been engraven on a plate, the difference in the expence would have been trifling, and chiefly in the paper: as they now are, each is distinct, and every one is at liberty to place them according to that system which he most approves of.

The want of figures of reference to the plates, or letter-press, has been perhaps a more solid objection; but the Author hopes, that by the use of the indexes described below, this also will be obviated.

Having now, so far as he can recollect, answered every thing deserving the name of an objection, he willingly submits his performance to the judgment of a candid and impartial public; conscious of having used his best endeavours to be serviceable in his department.

Uses of the Indexes, with Directions for Binding.

In the first Index the plants are placed according to the System of LINNÆUS, with which it is presumed, the greatest part of his subscribers are best acquainted. To find out any plant, even though the person be not acquainted with this mode of arrangement, look in the alphabetical English or Latin Index, and you will find the figures corresponding with them as placed in the book: if for example I want to find Ivy, I look for it in Index, No. 3, where the English names are alphabetically arranged, and find it to be the 16 plate, as there are 72 plates in each Fasciculus, I can readily guess within a few plates where it is placed: to those who have been accustomed to look out plants in LINNÆUS's works it will come easier; but if each subscriber will take the small pains of figuring the plates with a black lead pencil, any plant may then be immediately referred to. The Author could not hit on any mode more eligible, consistent with the irregular order in which he has been obliged to publish his plants.

With every third Fasciculus will be given a general and more copious Index, with a Glossary of the technical terms used in the work.

He would recommend to his subscribers, that each Fasciculus containing twelve numbers, be *bound in boards, and not cut at the edges; the plates to be placed in the same order in which they occur in the first Index;* taking care that each plate be put opposite to the letter-press belonging to it, with a leaf of thin paper betwixt them. If any should be at a loss to have them properly done, they will be pleased to send them to *Raham Reepe's*, Bookbinder, in Crooked-Lane, near the Monument, who binds the Author's.

N. B. It may be necessary to caution the Bookbinder against beating the Numbers, as that operation would probably destroy the beauty of the plates.

A

Catalogue of those Plants which are *intended* to be Published in the next *Fasciculus*.

Anemone nemorosa
~~Adoxa moschatellina~~
 Ajuga reptans
 Aira præcox
 Arabis thaliana
 Arenaria tenuifolia
 Achillæa Ptarmica
 Eriza media
 Corylus avellana
 Charophyllum sylvestre
 Convolvulus arvensis
 Circeæ lutetiana
 Chenopodium Vulvaria
 Dipfacus sylvestris
 Epilobium angustifolium
 Epilobium ramosum
 Erica cinerea
 Fumaria officinalis
 Festuca duriuscula
 Festuca myuros
 Glechoma hederacea
 Geranium molle
 Geranium rotundifolium
 Geranium perenne

Geranium Columbinum
 Hyacinthus non scriptus
 Hyoscyamus niger
 Hypericum montanum
 Hypericum quadrangulum
 Hypericum hirsutum
 Ilex Aquifolium
 Iris Pseudacorus
 Lamium amplexicaule
 Lyfimachia nemorum
 Lyfimachia nummularia
 Lyfimachia tenella
 Lyfimachia vulgaris
 Ligustrum vulgare
 Lotus corniculata
 Myosurus minimus
 Malva officinalis
 Malva minor
 Medicago lupulina
 Osmunda spicant
 Oxalis acetosella
 Orchis Morio
 Ornithopus perpusillus
 Plantago lanceolata

Plantago major
 Plantago Coronopus
 Plantago media
 Poa rigida
 Poa compressa
 Polygonum amphibium
 Polytrichum commune
 Ranunculus hirsutus
 Ranunculus Ficaria
 Sagina erecta
 Saxifraga tridactylites
 Spargula nodosa
 Sedum dasiphyllum
 Sedum reflexum
 Symphytum officinale
 Sparganium erectum
 Tusfilago farfara
 Tormentilla erecta
 Thymus serpyllum
 Trifolium fragiferum
 Valeriana dioica
 Veronica officinalis
 Veronica hederifolia
 Veronica arvensis

GENERAL OBSERVATIONS

ON THE

Advantage which may result from the Introduction of the SEEDS of our best GRASSES.

THAT much of our meadow and pasture land may be rendered infinitely more valuable than it is at present, by the introduction of some of our best grasses, is an opinion which has long prevailed among many of the more enlightened agriculturists of the present age. And while some of these have endeavoured to excite the husbandman to collect and cultivate seeds of this sort, by writings fraught with the soundest reasoning^a; others have attempted to attract him by the offers of well-directed premiums^b. But, hitherto, neither the writings of the one, however convincing, nor the premiums of the other, however alluring, have been productive of the desired effect: Ray-Grass still continues to be the only grass whose seeds can be purchased for the purpose of laying down meadow and pasture land; and how inadequate that grass is for such a purpose, is known to every intelligent farmer. Why indeed the *Lolium perenne*^c should originally have been made use of, in preference to all the other grasses, cannot, perhaps, be satisfactorily accounted for; most probably it owes its introduction to accident, or to its being a common grass whose seeds were easily collected, rather than to its being preferred from an investigation of its merits compared with the others; however this may be, there appears to be no reason for excluding the others, for it would appear exceedingly improbable that of upwards of a hundred grasses^d growing wild in this country, the Author of Nature should have created one only as suitable to be cultivated for pasturage or fodder.

Taking it for granted then, that there are other grasses, superior in many respects to the Rye-Grass, this question naturally arises:—How comes it that they have not found their way into general use? To this it may be answered; improvements in any science, but more especially agriculture, are slow in their advances; and, perhaps, no class of men adheres more pertinaciously to old practices than the farmer.

The difficulty of distinguishing the grasses one from another, has no doubt proved one grand obstacle; many of these plants are so much alike, that the most discerning botanist is often at a loss to know some of them apart; if so, how easily may the husbandman be deterred from the arduous task.

There is another cause which may have operated against their introduction: grasses, as well as other plants, have been frequently recommended, from a partial and limited observation of them, by persons who neither knew them well as botanists or agriculturists, or who have recommended them, merely to gain by the credulity of the public.

But, perhaps, the chief reason has been, that persons who might be expected to make the improvements, have not had the means fairly put into their hands of making the experiment. Whether the method we have adopted on this occasion, may be more successful than those of our predecessors, must be determined by the event. From the numerous applications made to me, by a variety of gentlemen, for grass seeds, it has appeared incumbent on me to do something which might gratify them, and render the public an essential service; I wish, at least, to put it into their power to decide on a matter which has been long agitated, and from which I am far from being the only one that entertains the most sanguine hopes of its proving a great national advantage.

The grasses recommended will I am certain, do all that our natural grasses can do: they are six of those which constitute the bulk of our best pastures; most of them are early, all of them are productive, and they are adapted to such soils and situations as are proper for meadows and pastures.

But let no one expect them to perform wonders; for, after all, they are but grasses, and, as such, are liable to produce great or small crops, according to particular seasons, or to the fertility or barrenness of the soil on which they are sown.

OBSERVATIONS on the GRASSES recommended and contained in the PACKET.

I. ANTHOXANTHUM ODORATUM. Sweet-Scented Vernal-Grass. Fig. 1.

NEXT to the *Cynofurus Cynurus*, or Blue Dogs-Tail Grass, this, of all our English grasses, comes first into blossom; it is therefore valuable as an early grass; it is valuable also for its readiness to grow in all kinds of soil and situation, being found in bogs, in woods (especially such as are of low growth, or have had the underwood cut down) in rich meadows, and in dry pastures; in point of crop, it is not so productive as some, yet more so than others; cattle appear to be fond of it, and it is well known to be the only English grass which is odoriferous; the agreeable scent of new-made hay arises entirely from this grass, hence its name of *odoratum*, or sweet-scented; the green leaves, when bruised, readily impart this perfume to the fingers, by which means the foliage may at all times be known; and persons not deeply skilled in Botany, may distinguish it when in blossom, by its having only two threads or stamina to each flower.

Of the several grasses here recommended, it is the least productive in point of seed.

^a "It is wonderful to see how long mankind has neglected to make a proper advantage of plants of such importance, and which, in almost every country, are the chief food of cattle. The farmer, for want of distinguishing and selecting grasses for feed, fills his pastures either with weeds, or bad or improper grasses; when, by making a right choice, after some trials, he might be sure of the best grass, and in the greatest abundance that his land admits of. At present, if a farmer wants to lay down his land to grass, what does he do? He either takes his seeds indiscriminately from his own foul hay-rick, or sends to his next neighbour for a supply. By this means, besides a certain mixture of all sorts of rubbish, which must necessarily happen: if he chances to have a large proportion of good seeds, it is not unlikely but that, what he intends for dry land may come from moist, where it grew naturally, and the contrary. This is such a slovenly method of proceeding, as one would think could not possibly prevail universally; yet this is the case as to all grasses, except the Ray-Grass, and what is known in some few counties by the name of the Suffolk-Grass (*Poa annua*); and this latter instance is owing, I believe, more to the soil, than any care of the husbandman. Now, would the farmer be at the pains of separating, once in his life, half a pint or a pint of the different kinds of grass seeds, and take care to sow them separately; in a very little time, he would have wherewithal to stock his farm properly according to the nature of each soil; and might, at the same time, spread these seeds separately over the nation, by supplying the seed-shops. The number of grasses fit for the farmer is, I believe, small; perhaps, half a dozen, or half a score, are all he need to cultivate; and how small the trouble would be of such a task, and how great the benefit, must be obvious to every one at first sight. Would not any one be looked on as wild, who should sow wheat, barley, oats, rye, pease, beans, vetches, buck-wheat, turnips, and weeds of all sorts, together? Yet, how is it much less absurd, to do what is equivalent, in relation to grasses." *Stillingfleet's Misc. Tracts*, Edit. 2. p. 365.

^b Meadow and pasture land is oftener neglected than ploughed ground, notwithstanding it generally admits of a much greater proportion of improvement. The best grasses cannot be collected at too great an expence; for, I have seen a small spot of land, in the middle of a large piece, which was laid down twelve or fourteen years since, by Mr. Stillingfleet, upon the estate of Mr. Price, of Foxley, in Herefordshire, with some choice seeds, at the same time when the remainder of the field was laid down with common seeds; and this spot is considerably better than the rest. It not only appeared so to my judgment, but was allowed to be so by Mr. Price's bailiff, who was well acquainted with its produce. From Mr. Stillingfleet's experiments, and my own observations, I am clearly of opinion, that any person who has land calculated for grass, may improve it, by this method of laying it down, to a much greater degree than he can in the usual way." *Kent's Hints to Gentlemen of Landed Property*. See also, *Anderson's Essays on Agriculture and Rural Affairs*, 2 vols. 8vo. in which this subject, among a variety of others, is very copiously and ably handled; and, on the perusal of which, one cannot but seriously lament, that many of the useful hints of the ingenious author, are rendered abortive, from his want of Botanical information.

^c Society for the Encouragement of Manufactures, Arts, and Commerce.—^d Ray, or Rye-Grass.—^e The word grasses is here understood in its strict sense.

II. ALOPECURUS

II. ALOPECURUS PRATENSIS. *Meadow Fox-Tail Grass. Fig. 2.*

PRODUCES its spike almost, and in some situations to the full, as early as the *Anthoxanthum*; hence it is equally valuable as an early grass; and as it is much larger, and quicker in its growth, it is consequently much more productive: it shoots very rapidly after mowing, producing a very plentiful aftermath; and where land is rich, and two crops are not thought too much for it to bear, of all our English grasses this appears to be the best adapted to such a purpose, and ought to form a principal part of the crop: its foliage may, perhaps, appear coarse to some, but it should be remembered, that no English grass can be productive that is not in some degree coarse; but if mown early, just as it comes into bloom, though the leaves are large the hay will not be coarse; in general, the great advantage arising from the earliness of this and the preceding grass is entirely lost at a distance from London, where hay-making commences late, and where the husbandman seems to wait for a crop of general indiscriminate herbage, rather than of grass.

The *Meadow Fox-Tail* is more confined as to its place of growth, growing naturally in a moist soil only; hence it is best adapted to improve very wet ground that may be drained of its superfluous moisture, or to form or meliorate meadows that have a moist bottom, and are not apt to be burnt up in dry summers.

Its seeds are easily collected, but a great number of them, we believe, at least one-third, are yearly destroyed by a very minute orange-coloured larva or maggot, which feeds on the embryo of the seed, and produces a very small musca or fly, probably the *Musca Frit* of Linnæus.

This grass is distinguished, in some degree, by the largeness of its foliage, and by its producing a soft spike on a long stalk early in May. The *Meadow Cats-Tail Grass* produces a spike somewhat similar, but rougher to the touch, and much later in the summer.

III. POA PRATENSIS. *Smooth-Stalked Meadow-Grass. Fig. 3.*

THE foliage of this grass begins to shoot, and to assume a beautiful verdure very early in the spring, but its flowering stems are not produced so soon, by at least a week, as those of the *Alopecurus*; this trifling difference, however, in point of earliness of flowering, does not prevent it from ranking very properly with the two preceding; and, where early grassy pasturage is a desideratum, we are of opinion it cannot better be obtained than by a combination of these three; if crop be at the same time an object, the *Meadow Fox-Tail Grass* should predominate.

This grass rather affects a dry than a moist situation, and hence it keeps its verdure in long-continued dry weather better than most others, but it will thrive in either; will grow on the top of a dry wall, but grow much more luxuriantly in a rich meadow: it is to be observed, however, that it has a root which creeps like the *Couch-Grass*, and is almost as difficult to extirpate; it ought therefore to be cautiously introduced where the pasturage is not intended to be permanent.

Of the trifling improvements which we flatter ourselves to have occasionally made in some of the specific characters of the English plants, none have given us more satisfaction than those which relate to this species and the *Poa Trivialis*, two grasses so very similar, as scarcely to be distinguished, even by the most discerning eye, at a little distance, and very obscurely characterised by Linnæus, but which, by attending to two characters only in each grass, may now, in a moment, be distinguished by the utmost facility and certainty.

The *Poa Pratensis* has a smooth stalk, the *Trivialis* a rough one, perceptible when drawn betwixt the thumb and finger, and which arises from little sharp points, visible when the sheath of the leaf which covers the stalk is magnified, *vid. fig. 4*, the *Trivialis* has a long pointed membrane at the base of the leaf, *fig. 5*, the *Pratensis* a short blunt one, *fig. 6*. These grasses differ specifically in a variety of other particulars, not necessary here to dwell on; and which such as wish to be more particularly informed of, may consult the *Flora Londinensis*.

IV. POA TRIVIALIS. *Rough-Stalked Meadow-Grass. Fig. 7.*

SIMILAR as this grass and the preceding are in their appearance, particularly in their mode of flowering, they differ very essentially in their qualities. While the *Smooth-Stalked Meadow-Grass* is found chiefly in dry pastures, the *Rough-Stalked* principally occurs in moist meadows, or on the edges of wet ditches; it loves moisture, and a situation that is rather shady; hence, though there are few grasses more productive, or better adapted, for hay or pasturage, it is a tender grass, and liable to be injured by severe cold, or excessive drought: in very wet ground near the Thames, we have observed it grow very tall, while in poor land we have, on the contrary, seen it altogether as diminutive; it is, perhaps, no small recommendation to it that it is a principal grass in that uncommonly productive meadow near Salisbury, mentioned by Stillingfleet, and more particularly described in the *Memoirs of the Bath Agricultural Society, vol. 1. p. 94*.

The account given of the extraordinary fertility of this meadow, excited our curiosity, and induced us to request a gentleman residing near the spot, to favour us with six small turfs, cut up in different parts of the said meadow, and which being planted in our garden, Lambeth-Marsh, produced as follows:

TURF 1.	<i>Poa trivialis</i> , <i>Ranunculus acris</i> , <i>Triticum repens</i> , <i>Agrostis alba</i> .	TURF 4.	<i>Poa trivialis</i> , <i>Triticum repens</i> , <i>Peucedanum Silaus</i> .
TURF 2.	<i>Poa trivialis</i> , <i>Alopecurus pratensis</i> , <i>Triticum repens</i> .	TURF 5.	<i>Poa trivialis</i> , <i>Alopecurus pratensis</i> , <i>Agrostis alba</i> , <i>Avena elatior</i> , <i>Triticum repens</i> .
TURF 3.	<i>Poa trivialis</i> , <i>Agrostis alba</i> .		

This experiment proves, in a great degree at least, what we long before suspected, that the extraordinary fertility of this meadow arose not from any new grass peculiar to it, but from several unusual circumstances concurring, and favouring, in an uncommon degree, the growth of certain well known grasses, especially the *Poa trivialis* and *Agrostis alba*.

We may remark that the seeds of the *Poa Trivialis* and *Poa Pratensis*, but more especially those of the former, are apt to be entangled and adhere to each other, as if cobwebs had been intermixed with them.

V. FESTUCA PRATENSIS. *Meadow Fescue-Grass. Fig. 8.*

OF the several grasses here recommended, this comes the nearest in its appearance to the *Ray-Grass*, to which, however, it seems to us, in many respects, to be greatly superior, at least, for the purpose of forming or improving meadows; it is larger, and more productive of foliage; it is strictly perennial, it is very hardy, and will thrive not only in very wet, but also in dry ground: we have found it growing in all situations, from the sand-pits at Charlton to the osier-grounds at Battersea; and it abounds in the very best meadows about London; in short, we know of no grass more likely to supply the deficiencies complained of in *Ray-Grass*; and yet it has not, that we know of, been particularly recommended. One quality it has, which bids fair to introduce it quickly into more general use; it produces more seeds than any of the others, which are easily gathered, and readily grow. In one respect, it is inferior to the three first grasses; it does not produce its flowering stems earlier than about the middle of June, a fortnight or three weeks later than the *Meadow Fox-Tail Grass*, yet it cannot be considered as a late grass, as most of the *Agrostis* tribe, and the *Meadow Cats-Tail Grass*, flower at least three weeks later. It must be carefully distinguished from the *Festuca Elatior* or *Tall Fescue-Grass*, which is a very similar but much coarser grass.

VI. CYNOSURUS

VI. CYNOSURUS CRISTATUS. *Crested Dogs-Tail Grass.* Fig. 9.

IT is chiefly from the great character which this grass bears as a favourite and wholesome food for sheep, and from its being found in our soundest and best pastures, that it is here recommended. It grows naturally in dry situations, and will not thrive in meadows that are very wet: it flowers about the same time as the *Meadow Fescue-Grass*, and is not very productive of foliage. As its flowering stems are always left untouched by cattle, its seeds may easily be collected, where the pasturage is fed, not mown.

- Of the above SIX GRASSES, it will appear that the

Meadow Fox-Tail, and Rough-Stalked Meadow-Grass	{ are fittest for }	Moist Land.
Meadow Fescue, and Sweet-Scented Vernal		Land either moist or moderately dry.
Smooth-Stalked Meadow-Grass, and Crested Dogs-Tail		Dry pasture.

The ORDER of their FLOWERING.

1. Sweet-Scented Vernal.
2. Meadow Fox-Tail.
3. Smooth-Stalked Meadow.
4. Rough-Stalked Meadow.
5. Meadow Fescue.
6. Crested Dogs-Tail.

We could easily add many more grasses to this list, and those too which, perhaps, may be highly deserving of it; but we have our doubts, whether, by recommending more, we might not increase the difficulty of introducing grass seeds without any adequate advantage.

We shall, however, just take the liberty to mention such other English grasses, as appear to us, from long and repeated observation, deserving of further notice, and these are

Avena Elatior, Tall Oat-Grass: Common in wet meadows, and by the sides of hedges, early, and very productive, but coarse.

Avena Flavescens, Yellow Oat-Grass: Affects a dry soil, is early, and productive; bids fair to make a good sheep-pasture.

Avena Pubescens, Rough Oat-Grass: Soil and situation nearly similar to that of the *Meadow Fescue*, hardy, early, and productive.

Bromus Erectus, Upright Brome-Grass: Peculiar to chalky soils, early and productive; promises to be a good grass for chalky lands, and thrives indeed very well on others.

Cynosurus Cæruleus, Blue Dogs-Tail Grass: Earliest of all the grasses, grows naturally on the tops of the highest lime-stone rocks in the northern parts of Great-Britain; not very productive, yet may, perhaps, answer in certain situations, especially as a grass for sheep; bears the drought of summer remarkably well: at all events, seems more likely to answer than the *Sheep's Fescue Grass*, on which such encomiums have most unjustly been lavished.

Dactylis Glomeratus, Rough Cocks-Foot Grass: A rough coarse grass, but extremely hardy and productive; soil and situation the same as the *Meadow Fescue*.

Festuca Elatior, Tall Fescue Grass: Tall and coarse, but very productive; affects wet situations.

Festuca Duriuscula, Hard Fescue Grass: Affects such situations as the *Smooth-Stalked Meadow-Grass*; is early, and tolerably productive; its foliage is fine, and of a beautiful green; hence, we have sometimes thought it was, of all others, the fittest for a grass-plot or bowling-green; but we have found, that though it thrives very much when first sown or planted, it is apt to become thin, and die away, after a while.

Pbleum Pratense, Meadow Cats-Tail Grass: Affects wet situations, is very productive, but coarse and late.

DIRECTIONS for Sowing the GRASS SEEDS contained in the PACKET.

IF a piece of ground can be had, that is neither very moist nor very dry, it will answer for all the seeds; they may then be sown on one spot: but if such a piece cannot be obtained, they must be sown on separate spots, according to their respective qualities, no matter whether in a garden, a nursery, or a field, provided it be well secured and clean. Dig up the ground, level, and rake it, then sow each kind of seed thinly in a separate row, each row about a foot apart, and cover them over lightly with the earth: the latter end of August, or beginning of September, will be the most proper time for this business. If the weather be not uncommonly dry, the seeds will quickly vegetate, and the only attention they will require will be to be carefully weeded: in about a fortnight from their coming up, such of the plants as grow thickly together may be thinned, and those which are taken up transplanted, so as to make more rows of the same grass.

If the winter should be very severe, though natives, as seedlings, they may receive injury, therefore it will not be amiss to protect them with mats, fern, or by some other contrivance.

Advantage should be taken of the first dry weather in the spring, to roll or tread them down, in order to fasten their roots in the earth, which the frost generally loosens: care must still be taken to keep them perfectly clear from weeds. As the spring advances, many of them will throw up their flowering stems, and some of them will continue to do so all the summer. As the seed in each spike or panicle ripens, it must be very carefully gathered, and sown in the autumn, at which time the roots of the original plants, which will now bear separating, should be divided and transplanted, so as to form more rows; the roots of the *Smooth-Stalked Meadow-Grass*, in particular, creeping like *Couch-Grass*, may readily be increased in this way; and thus, by degrees, a large plantation of these grasses may be formed, and much seed collected.

While the seeds are thus increasing, the piece or pieces of ground which are intended to be laid down, should be got in order. If very foul, perhaps, the best practice (if pasture land) will be to pare off the sward and burn it on the ground; or, if this should not be thought advisable, it will be proper to plough up the ground and harrow it repeatedly, burning the roots of *Couch-Grass*, and other noxious plants, till the ground is become tolerably clean; to render it perfectly so, some cleansing crop, as potatoes or turnips, should be planted or sown.

By this means, the ground we propose laying down, will be got into excellent order without much loss; and being now ready to form into a meadow or pasture, should be sown broad-cast, with the following composition.

Meadow Fox-Tail, one pint.—*Meadow Fescue*, ditto.—*Smooth-Stalked Meadow*, half a pint.—*Rough-Stalked Meadow*, ditto.—*Crested Dogs-Tail*, a quarter of a pint.—*Sweet-Scented Vernal*, ditto.—*Dutch Clover* (*Trifolium Repens*) half a pint.—*Wild Red Clover* (*Trifolium Pratense*) or, in its stead, *Broad Clover of the Shops*, ditto.—For wet land, the *Crested Dogs-Tail*, and *Smooth-Stalked Meadow*, may be omitted, especially the former.

Such a composition as this, sown in the proportion of about three bushels to an acre, on a suitable soil, in a favourable situation, will, I am bold to assert, form in two years a most excellent meadow; and as all the plants sown, are strong, hardy perennials, they will not easily suffer their places to be usurped by any noxious plants, which by manure or other means, in spite of all our endeavours, will be apt to insinuate themselves; if they should, they must be carefully extirpated, for such a meadow is deserving of the greatest attention; but if that attention cannot be bestowed on it, and, in process of time, weeds should predominate over the crop originally sown, the whole should be ploughed up, and fresh sown with the same seeds, or with a better composition, if such shall be discovered; for I have no doubt but, at some future time, it will be as common to sow a meadow with a composition somewhat like this, as it now is to sow a field of wheat or barley.

An ENUMERATION of the BRITISH GRASSES.

GENUS I.

AGROSTIS. BENT-GRASS.

- | | |
|---|-------------------------|
| 1 Spicaventi. L. 110. H. 30. R. 405. n. 17. | * Bearded. |
| 2 Canina. L. 110. H. 30. | * Brown. |
| 3 Tenuifolia. H. var. canina. a | * Fine-Leaved. |
| 4 Setacea. H. var. canina. y | * Sheeps-Fescue-Leaved. |
| 5 Alba. L. 111. H. var. polymorpha. z | * Marsh. |
| 6 Capillaris. L. 111. H. var. Polymorpha. a | * Fine-Panicle. |
| 7 Minima. L. 111. H. 32. R. Indic. pl. dub. | * Small. |

GENUS II.

AIRA. HAIR-GRASS.

- | | |
|---|-------------|
| 1 Aquatica. L. 112. H. 33. R. 402. n. 3. Fl. Lond. | * Water. |
| 2 Cæspitosa. L. 112. H. 34. R. 403. n. 5. | * Turfy. |
| 3 Flexuosa. L. 112. H. 34. R. 407. n. 8. | * Heath. |
| 4 Montana. L. 112. H. 35. | * Mountain. |
| 5 Canescens. L. 112. H. 36. R. 405. 16. | * Grey. |
| 6 Præcox. L. 112. H. 36. R. 408. 10. 1. 22. f. 2. Fl. Lond. | * Early. |
| 7 Caryophyllæa. L. 112. H. 36. R. 407. 7. | * Silver. |

GENUS III.

ALOPECURUS. FOX-TAIL-GRASS.

- | | |
|--|------------|
| 1 Pratensis. L. 108. H. 27. R. 396. 1. Fl. Lond. | * Meadow. |
| 2 Agrestis. L. 108. H. 27. R. 397. 1. Fl. Lond. | * Field. |
| 3 Geniculatus. L. 108. H. 27. R. 396. 2. Fl. Lond. | * Flote. |
| 4 Bulbosus. L. 108. H. var. geniculatus β. R. 397. 3. t. 20. f. 2. | * Bulbous. |
| 5 Montpellierensis L. 109. H. 28. Al. aristatus. R. 396. 4. | * Bearded. |

GENUS IV.

ANTHOXANTHUM. VERNAL-GRASS.

- | | |
|---|------------------|
| 1 Odorum. L. 73. H. 11. R. 398. Fl. Lond. | * Sweet-Scented. |
|---|------------------|

GENUS V.

ARUNDO. REED-GRASS.

- | | |
|--|-----------|
| 1 Phragmites. L. 123. H. 53. R. 401. 1. | * Common. |
| 2 Calamagrostis. L. 123. H. 54. R. 401. 2. | * Wood. |
| 3 Epigejos. L. 123. ? H. 54. R. 401. 3. | * Small. |
| 4 Arenaria. L. 123. H. 54. R. 393. 1. | * Sea. |

GENUS VI.

AVENA. OAT-GRASS.

- | | |
|---|------------|
| 1 Elatior. L. 121. H. 53. R. 406. 3. 4. Fl. Lond. | * Tall. |
| 2 Pratensis. L. 122. H. 52. R. 405. 1. 21. f. 1. | * Meadow. |
| 3 Pubescens. L. 122. H. 52. R. 406. 1. 21. f. 2. | * Rough. |
| 4 Flavescens. L. 122. H. 53. R. 407. 5. Fl. Lond. | * Yellow. |
| 5 Nuda. L. 122. H. 52. R. 389. 6. | * Naked. |
| 6 Fatua. L. 122. H. 52. R. 389. 7. | * Bearded. |

GENUS VII.

BRIZA. QUAKING-GRASS.

- | | |
|------------------------------------|-----------|
| 1 Media. L. 115. H. 38. R. 412. 1. | * Common. |
| 2 Minor. L. 115. H. 38. R. 412. 2. | * Small. |

GENUS VIII.

BROMUS. BROME-GRASS.

- | | |
|--|--------------------|
| 1 Mollis. L. 119. H. 48. polymorphus. R. 413. 5. | * Soft. |
| 2 Secalinus. L. 119. H. 49. polymorphus. R. 414. 8. | * Field-Lob-Grass. |
| 3 Squarrosus. L. 119. H. 49. | * Corn. |
| 4 Erectus. H. 49. R. 413. 2. | * Upright. |
| 5 Muralis. H. 50. | * Wall. |
| 6 Sterilis. L. 120. H. 50. R. 412. Fl. Lond. | * Barren. |
| 7 Giganteus. L. 120. H. 51. R. 415. 11. Fl. Lond. | * Tall. |
| 8 Hirsutus. L. 119. asper. H. 51. nemoralis. R. 415. 10. Fl. Lond. | * Hairy. |

GENUS IX.

CYNOSURUS. DOGS-TAIL-GRASS.

- | | |
|--|------------|
| 1 Cristatus. L. 116. H. 59. R. 398. | * Crested. |
| 2 Echinatus. L. 116. H. 59. R. 397. 5. | * Rough. |
| 3 Cæruleus. L. 117. H. 59. R. 399. 4. | * Blue. |

GENUS X.

DACTYLIS. COCKS-FOOT-GRASS.

- | | |
|---|----------|
| 1 Glomerata. L. 116. H. 43. R. 400. 2. | * Rough. |
| 2 Maritima. H. 43. cynosuroides. R. 393. 4. | * Sea. |

GENUS XI.

ELYMUS. LYME-GRASS.

- | | |
|--|------------|
| 1 Arenarius. L. 125. H. 56. | * Sea. |
| 2 Genuiculatus. | * Elbowed. |
| 3 Caninus. L. 125. H. 58. Triticum caninum. R. 390. 2. | * Dogs. |

GENUS XII.

FESTUCA. FESCUE-GRASS.

- | | |
|---|--------------|
| 1 Bromoides. L. 118. H. 46. R. 415. 13. | * Barren. |
| 2 Myurus. L. 118. H. 46. R. 415. 12. | * Wall. |
| 3 Ovina. L. 118. H. 44. R. 410. 9. | * Sheeps. |
| 4 Duriscula. L. 118. H. 44. R. 413. 4. t. 19. f. 1. | * Hard. |
| 5 Cambria. H. 45. | * Welch. |
| 6 Decumbens. L. 119. H. 47. R. 408. 11. | * Decumbent. |
| 7 Pratensis. H. 47. var. fluitans. R. 411. 16. | * Meadow. |
| 8 Elatior. L. 118. H. 47. R. 411. 14. | * Tall. |
| 9 Lolacea. H. 47. var. fluitans. | * Darnel. |
| 10 Fluitans. L. 119. H. 46. R. 412. 17. Fl. Lond. | * Flote. |

- | | |
|--|-----------|
| 11 Rinnata. H. 48. R. 392. § | * Spiked. |
| 12 Rubra. L. 118. H. 45. | * Purple. |
| 13 Glabra. Lightfoot Fl. Scot. App. p. 1085. | * Smooth. |
| 14 Uniglumis. H. 55. Lolium bromoides. R. 413. 3. t. 17. f. 2. | * Sea. |
| 15 Sylvatica. L. 120. Bromus pinnatus. H. 48. R. 394. § | * Wood. |

GENUS XIII.

HORDEUM. BARLEY-GRASS.

- | | |
|---|-----------|
| 1 Murinum. L. 126. H. 56. R. 391. 1. Fl. Lond. | * Wall. |
| 2 Maritimum. H. 56. marinum. R. 392. 3. | * Sea. |
| 3 Pratense. H. 56. R. 392. 2. | * Meadow. |
| 4 Sylvaticum. H. 57. L. 125. Elymus europæus. R. 392. | * Wood. |

GENUS XIV.

HOLCUS. SOFT-GRASS.

- | | |
|---|-------------|
| 1 Mollis L. 905. H. 440. n. 404. 15. Fl. Lond. | * Creeping. |
| 2 Lanatus L. 905. H. 440. R. 404. 14. Fl. Lond. | * Meadow. |

GENUS XV.

LOLIUM. DARNEL-GRASS.

- | | |
|---|----------------------------|
| 1 Perenne. L. 124. H. 55. R. 395. 2. | * Perennial, or Ray-Grass. |
| 2 Temulentum. L. 124. H. 55. R. 395. 1. | * Annual. |

GENUS XVI.

MELICA. MELIC-GRASS.

- | | |
|--|--------------------|
| 1 Uniflora. H. 37. nutans. R. 403. 6. Fl. Lond. | * Single-Flowered. |
| 2 Nutans. L. 112. H. 37. montana. R. 403. 7. | * Mountain. |
| 3 Cærulea. L. 113. H. 33. Aira cærulea. R. 404. 8. | * Blue. |

GENUS XVII.

MILIUM. MILLET-GRASS.

- | | |
|---|---------|
| 1 Effusum. L. 109. H. 29. R. 402. 1. Fl. Lond. | * Wood. |
| 2 Lendigerum. L. 109. H. 28. Alopecurus ventricosus. R. 394. 4. | * Corn. |

GENUS XVIII.

NARDUS. MAT-GRASS.

- | | |
|--------------------------------------|----------|
| 1 Stricta. L. 102. H. 22. R. 393. 2. | * Small. |
|--------------------------------------|----------|

GENUS XIX.

PANICUM. PANIC-GRASS.

- | | |
|--|---------------|
| 1 Viride. L. 105. H. 24. R. 393. 1. Fl. Lond. | * Green. |
| 2 Verticillatum. L. 105. H. 24. R. 394. 3. Fl. Lond. | * Whirled. |
| 3 Crus-Galli. L. 105. H. 24. R. 394. 2. Fl. Lond. | * Loose. |
| 4 Sanguinale. L. 106. H. 25. R. 399. 2. Fl. Lond. | * Cocks-Foot. |
| 5 Dactylon. L. 106. H. 25. R. 399. 1. | * Creeping. |

GENUS XX.

POA. MEADOW-GRASS.

- | | |
|---|-------------------|
| 1 Aquatica. L. 113. H. 38. R. 411. 13. Fl. Lond. | * Water or Reed. |
| 2 Alpina. L. 113. H. 39. var. alpina. | * Alpine. |
| 3 Trivialis. L. 113. H. 39. R. 409. 3. Fl. Lond. | * Rough-Stalked. |
| 4 Pratensis. L. 113. H. 39. R. 409. 2. Fl. Lond. | * Smooth-Stalked. |
| 5 Nemoralis. L. 115. H. 40. angustifolia. | * Wood. |
| 6 Bulbosa. L. 115. H. 41. | * Bulbous. |
| 7 Compressa. L. 115. H. 41. R. 409. | * Flat-Stalked. |
| 8 Annuæ. L. 113. H. 42. R. 408. 1. Fl. Lond. | * Dwarf. |
| 9 Maritima. H. 42. R. 409. 6. | * Sea. |
| 10 Retroflexa. L. 115. distans ? H. 34. var. aïra aquatica. | * Reflexed. |
| 11 Rigida. L. 114. H. 42. R. 410. 8. Fl. Lond. | * Hard. |
| 12 Cristata. L. 115. H. aïra cristata. 33. R. 396. 3. | * Crested. |

GENUS XXI.

PHELUM. CATS-TAIL-GRASS.

- | | |
|---|-------------|
| 1 Arenarium. L. 108. H. 23. Phalaris arenaria. R. 398. 4. | * Sea. |
| 2 Pratense. L. 107. H. 25. R. 398. 1. | * Meadow. |
| 3 Nodofum. L. 108. H. var. pratense. | * Bulbous. |
| 4 Alpinum. L. 108. | * Alpine. |
| 5 Paniculatum. H. 26. | * Branched. |

GENUS XXII.

PHALARIS. CANARY-GRASS.

- | | |
|--|--------------|
| 1 Phleoides. L. 104. | * Cats-Tail. |
| 2 Canariensis. L. 103. H. 23. | * Birds. |
| 3 Arundinacea. L. 104. H. 23. R. 400. 1. | * Reed. |

GENUS XXIII.

ROTTOELLA. HARD-GRASS.

- | | |
|--|--------|
| 1 Incurvata. L. 124. H. 441. Ægilops incurva. R. 395. 3. | * Sea. |
|--|--------|

GENUS XXIV.

STIPA. FEATHER-GRASS.

- | | |
|--------------------------------------|---------------|
| 1 Pennata. L. 121. H. 29. R. 393. 3. | * Long-Awned. |
|--------------------------------------|---------------|

GENUS XXV.

TRITICUM. WHEAT-GRASS.

- | | |
|---|-----------------------------|
| 1 Juncum. L. 127. H. 58. R. 391. 4. | * Rushy. |
| 2 Repens. L. 127. H. 57. R. 390. | * Creeping, or Couch-Grass. |
| 3 Maritimum. L. 127. H. 43. Poa lolacea. R. 395. 4. | * Sea. |

All these grasses which have an asterisk before their English names, are at present growing in my Botanic-Garden, Lambeth-Marsh.—L. refers to the 14th Edition of the *Systema Vegetabilium* of Linnæus, published by Prof. Murray, Göttinge, 1784.—H. refers to the 2d Edition of Mr. Hudson's *Flora Anglica*.—R. to the 3d Edition of Mr. Ray's *Synopsis*.—And Fl. Lond. to the *Flora Londinensis*, in which, the grasses so referred to, are figured of their natural size.

In this Catalogue there are twelve more species enumerated than in Stillingfleet, and fifteen more than in the last Edition of Mr. Hudson's *Flora Anglica*: we have little doubt but some of these will prove varieties, particularly Alopecurus, 4. Bromus, 3. 5. Festuca, 12. and Poa, 6. some have, perhaps, no right to appear in a British List, as Avena, 5. and Phalaris, 2.—Phleum, 4, is inserted on the authority of Mr. Dixon, who discovered it in his late tour into Scotland.

We are far from considering this catalogue as complete; but, if it has no other use, it may excite others to make it so: though the word complete can but seldom be applied with propriety to any part of Natural History, as new subjects are perpetually discovered, and which often make it necessary not only to add to, but to alter names and descriptions that have been long established.

INDEX,

In which the LINNÆAN Names of the Plants contained in the 1st, 2d, and 3d Fasciculi, are arranged Alphabetically.

Fasc.

10	Anthoxanthum odoratum	-	1
12	Aira aquatica	-	1
13	— præcox	-	3
22	Alopecurus myosuroides (agrestis Lin.)	-	2
23	Avena flavescens	-	3
24	— elatior	-	3
36	Anagallis arvensis	-	1
37	— tenella	-	3
48	Æthusa Cynapium	-	1
54	Alfina media	-	1
92	Agrostema Githago	-	2
106	Adonis autumnalis	-	2
113	Anemone nemorosa	-	1
121	Ajuga reptans	-	1
128	Antirrhinum Cymbalaria	-	3
129	— Elatine	-	1
131	— spurium	-	2
130	— Linaria	-	2
136	Arabis Thaliana	-	1
189	Arum maculatum	-	2
196	Atriplex hastata	-	2
197	Asplenium Scolopendrium	-	1
212	Agaricus ovatus	-	2
213	— fimetarius	-	2
214	— glutinosus	-	3
215	— plicatilis	-	3
216	— ostreatus	-	3
78	Adoxa Moichatellina	-	2
19	Bromus mollis	-	1
20	— sterilis	-	1
21	— hirsutus	-	1
79	Butomus umbellatus	-	2
123	Betonica officinalis	-	2
137	Brassica muralis	-	3
170	Bidens cernua	-	3
175	Bellis perennis	-	1
200	Bryum scoparium	-	1
201	— undulatum	-	1
202	— hornum	-	1
203	— truncatum	-	2
204	— viridulum	-	2
205	— subulatum	-	3
206	— argenteum	-	3
207	— cespitium	-	3
9	Circæa lutetiana	-	3
32	Centunculus minimus	-	3
38	Convolvulus sepium	-	1
39	— arvensis	-	2
47	Conium maculatum	-	1
50	Chenopodium album	-	2
51	— viride	-	2
52	— polyspermum	-	2
53	— Bonus Henricus	-	3
83	Chrysosplenium oppositifolium	-	2
93	Cerastium semidecandrium	-	2
94	— viscosum	-	2
95	— vulgatum	-	2
96	— aquaticum	-	1
114	Caltha palustris	-	1
138	Cardamine amara	-	3
139	— pratensis	-	3
171	Carduus marianus	-	3
190	Carex pendula	-	3
26	Dipsacus pilosus	-	1
27	— sylvestris	-	3
132	Digitalis purpurea	-	1
133	Draba verna	-	1
64	Epilobium hirsutum	-	2
65	— villosum	-	2
66	— tetragonum	-	2
67	— angustifolium	-	2
68	— montanum	-	3
69	Erica tetralix	-	1

INDEX,

In which the English Names of the Plants are arranged Alphabetically.

Fasc.

12	Aira water	-	1
113	Anemone wood	-	2
52	Allseed	-	2
104	Avens	-	2
125	All-heal	-	3
19	Brome-Grass soft	-	1
21	— hairy stalk'd	-	2
20	— barren	-	1
200	Bryum broom	-	1
201	— curled	-	1
202	— swan's neck	-	1
203	— brown	-	2
204	— green	-	2
205	— awl-shaped	-	3
206	— silvery	-	3
207	— matted	-	3
156	Birds-foot-Trefoil common	-	2
71	Bistort common	-	2
176	Butterbur	-	1
121	Bugle common	-	2
6	Brook-lime	-	2
191	Burnet	-	2
123	Betony wood	-	3
25	Blinks	-	3
141	Crane's-bill Hemlock-leav'd	-	1
142	— stinking or herb Robert	-	1
143	— doves foot common	-	2
144	— mountain	-	3
128	Cymbalaria ivy-leav'd	-	1
54	Chickweed common	-	1
38	Convolvulus large white	-	1
39	— field	-	2
102	Cinquefoil common	-	1
107	Crowfoot round-rooted	-	1
109	— upright meadow	-	1
108	— pale-leav'd	-	2
111	— wood	-	2
112	— celery leav'd	-	2
189	Cuckow-pint	-	2
177	Colts-foot	-	2
90	Campion red	-	2
28	Cleavers common	-	2
92	Cockle	-	3
190	Carex pendulous	-	3
158	Claver	-	3
155	Clover Dutch	-	3
192	Cats-tail broad-leav'd	-	3
193	— narrow-leav'd	-	3
175	Daisy common	-	1
133	Draba vernal	-	1
116	Dead-Nettle purple	-	1
118	— white	-	2
165	Dandelion common	-	1
60	Dock curl'd	-	2
62	— sharp pointed	-	3
61	— broad-leav'd	-	3
63	— narrow-leav'd	-	3
31	Devil's-bit	-	3
127	Eye-bright red	-	2
173	Erigeron purple	-	1
9	Enchanters Nightshade common	-	3
55	Elder dwarf	-	3
56	Flax purging	-	3
79	Flowering Rush	-	1
48	Fools-parley	-	1
129	Fluellin sharp pointed	-	1
131	— round-leav'd	-	3
132	Foxglove purple	-	1
18	Fescue grass flote	-	1
147	Fumitory common	-	2
22	Foxtail-grass field	-	2
57	Fritillary common	-	3
195	Frog-bit	-	3

cinerea

98	— cinerea	—	—	—	2	11	Flag yellow	—	—	—	3
98	Euphorbia Peplus	—	—	—	1	178	Fleabane common	—	—	—	3
99	— Helioscopia	—	—	—	1	179	— small	—	—	—	3
127	Euphrasia Odontites	—	—	—	1	174	Groundfel common	—	—	—	1
135	Erysimum Alliaria	—	—	—	2	83	Golden Saxifrage common	—	—	—	2
149	Ervum hirsutum	—	—	—	1	122	Ground-Ivy	—	—	—	2
150	— tetraspermum	—	—	—	1	50	Goosefoot white	—	—	—	2
173	Erigeron acre	—	—	—	1	51	— purple-jointed	—	—	—	2
18	Festuca fluitans	—	—	—	1	53	Good King Henry	—	—	—	2
57	Fritillaria Meleagris	—	—	—	3	197	Harts-tongue	—	—	—	1
101	Fragaria sterilis	—	—	—	3	47	Hemlock	—	—	—	1
147	Fumaria officinalis	—	—	—	2	69	Heath cross-leav'd	—	—	—	1
28	Galium Aparine	—	—	—	2	70	— fine-leav'd	—	—	—	2
104	Geum urbanum	—	—	—	2	35	Hottonia water	—	—	—	1
122	Glechoma hederacea	—	—	—	2	208	Hypnum proliferous	—	—	—	1
141	Geranium cicutarium	—	—	—	1	209	— silky	—	—	—	2
142	— robertianum	—	—	—	1	210	— meadow	—	—	—	3
143	— molle	—	—	—	2	42	Honeyfuckle common	—	—	—	1
144	— pyrenaicum	—	—	—	3	117	Henbit	—	—	—	2
35	Hottonia palustris	—	—	—	1	58	Hyacinth English	—	—	—	2
42	Hedera Helix	—	—	—	1	168	Hawkweed long rooted	—	—	—	3
58	Hyacinthus non scriptus	—	—	—	2	169	— small flowered	—	—	—	3
160	Hypericum pulchrum	—	—	—	—	215	Hydnum ear-picker	—	—	—	3
161	— perforatum	—	—	—	—	100	Houfeleek	—	—	—	3
162	— hirsutum	—	—	—	3	13	Hair-grafs early	—	—	—	3
163	— humifusum	—	—	—	3	170	Hemp-Agrimony Water	—	—	—	3
164	— Androsæmum	—	—	—	3	126	Hooded willow-herb common	—	—	—	3
168	Hypochaeris radicata	—	—	—	3	43	Ivy	—	—	—	1
169	— glabra	—	—	—	3	70	Knot-grafs common	—	—	—	1
195	Hydrocharis Morfus Ranæ	—	—	—	3	139	Ladies-smock common	—	—	—	3
208	Hypnum proliferum	—	—	—	1	138	— bitter	—	—	—	3
209	— sericeum	—	—	—	2	97	Loosestrife purple-spiked	—	—	—	3
210	— purum	—	—	—	3	96	Moufear-chickweed marsh	—	—	—	2
217	Hydnum auriscalpium	—	—	—	3	93	— least	—	—	—	2
11	Iris Pseudacorus	—	—	—	3	95	— common	—	—	—	2
59	Juncus campestris	—	—	—	2	94	— broad-leav'd	—	—	—	2
178	Inula dysenterica	—	—	—	3	114	Marsh-Marygold	—	—	—	1
179	— pulicaria	—	—	—	3	78	Mofchatel tuberous	—	—	—	2
8	Lycopus europæus	—	—	—	3	157	Medick hop	—	—	—	2
42	Lonicera Periclymenum	—	—	—	3	15	Meadow-grafs hard	—	—	—	2
45	Lyfimachia Nummularia	—	—	—	3	16	— smooth-stalk'd	—	—	—	2
56	Linum catharticum	—	—	—	1	17	— rough-stalk'd	—	—	—	2
90	Lychnis dioica	—	—	—	2	194	Mercury Dogs	—	—	—	2
91	— Flos cuculi	—	—	—	1	145	Mallow common	—	—	—	2
97	Lythrum Salicaria	—	—	—	3	146	— round-leav'd	—	—	—	3
116	Lamium purpureum	—	—	—	1	213	Mushroom Egg	—	—	—	2
117	— amplexicaule	—	—	—	2	212	— pucker'd	—	—	—	2
118	— album	—	—	—	2	214	— slimy	—	—	—	3
156	Lotus corniculatus	—	—	—	2	215	— plaited	—	—	—	3
159	Lathyrus pratensis	—	—	—	3	216	— oyster	—	—	—	3
165	Leontodon Taraxacum	—	—	—	1	45	Moneywort	—	—	—	3
166	Lapiana communis	—	—	—	1	44	Moufear-scorpion-grafs	—	—	—	3
25	Montia fontana	—	—	—	3	218	Morell stinking	—	—	—	3
44	Myosotis scorpioides	—	—	—	3	166	Nipplewort	—	—	—	1
145	Malva sylvestris	—	—	—	2	40	Nightshade woody	—	—	—	1
146	— rotundifolia	—	—	—	3	41	— garden	—	—	—	2
157	Medicago lupulina	—	—	—	2	124	Nettle hedge	—	—	—	3
158	— arabica	—	—	—	3	185	Orchis Bee	—	—	—	1
194	Mercurialis perennis	—	—	—	2	187	— early spotted	—	—	—	2
89	Oxalis Acetosella	—	—	—	2	188	— meadow	—	—	—	3
148	Orobis tuberosus	—	—	—	1	196	Orach spear-leav'd	—	—	—	2
185	Ophrys apifera	—	—	—	1	88	Orpine	—	—	—	3
186	— ovata	—	—	—	3	23	Oat-grafs yellow	—	—	—	3
187	Orchis mascula	—	—	—	2	24	— tall	—	—	—	3
188	— Morio	—	—	—	3	172	Oxtongue	—	—	—	3
199	Osmunda spicant	—	—	—	2	36	Pimpernel common	—	—	—	1
14	Poa annua	—	—	—	1	37	— bog	—	—	—	3
15	— rigida	—	—	—	2	32	— bastard	—	—	—	3
16	— pratensis	—	—	—	2	91	Pink meadow	—	—	—	1
17	— trivialis	—	—	—	2	148	Pea wood	—	—	—	1
29	Plantago lanceolata	—	—	—	2	14	Poa common dwarf	—	—	—	1
30	— major	—	—	—	2	72	Perficaria spotted leav'd	—	—	—	1
102	Potentilla reptans	—	—	—	1	73	— pale flowered	—	—	—	1
103	— Anserina	—	—	—	3	74	— spotted stalk'd	—	—	—	1
191	Poterium Sanguisorba	—	—	—	2	75	— biting	—	—	—	1
198	Polypodium vulgare	—	—	—	1	77	— small creeping	—	—	—	1
71	Polygonum Bistorta	—	—	—	1	198	Polypody common	—	—	—	1
72	— Perficaria	—	—	—	1	183	Pansie wild	—	—	—	1
73	— pensylvanicum	—	—	—	1	34	Pearlwort upright	—	—	—	2
74	— var: caul: macul:	—	—	—	1	33	— procumbent	—	—	—	3
75	— Hydropiper	—	—	—	1	196	Pheafants-eye	—	—	—	2
76	— aviculare	—	—	—	1	136	Podded Moufear	—	—	—	2
77	— minus	—	—	—	1	110	Pilewort	—	—	—	2
211	Polytrichum subrotundum	—	—	—	2	29	Plantain narrow-leav'd	—	—	—	2
218	Phallus impudicus	—	—	—	3	30	— common	—	—	—	2
105	Papaver Rhœas	—	—	—	3	211	Polytrichum dwarf	—	—	—	2
172	Picris echioides	—	—	—	3	105	Poppy smooth-round-headed	—	—	—	3
60	Rumex crispus	—	—	—	1	46	Periwinkle small	—	—	—	3

—obtusifolium

61	obtusifolium	-	-	-	3	59	Rush hairy field	-	-	-	2
62	acutus	-	-	-	3	137	Rocket stinking	-	-	-	3
63	maritimus	-	-	-	3	140	water	-	-	-	3
107	Ranunculus bulbosus	-	-	-	1	98	Spurge small garden	-	-	-	1
108	hirsutus	-	-	-	2	99	fun	-	-	-	1
109	acris	-	-	-	1	160	St. John's-wort small upright	-	-	-	1
110	Ficaria	-	-	-	2	161	common	-	-	-	1
111	auricomus	-	-	-	2	162	hairy	-	-	-	3
112	sceleratus	-	-	-	2	163	trailing	-	-	-	3
31	Scabiosa fuccifera	-	-	-	3	49	Scandix rough-seeded	-	-	-	1
33	Sagina procumbens	-	-	-	3	80	Saxifrage white	-	-	-	1
34	erecta	-	-	-	2	81	rue-leav'd	-	-	-	2
40	Solanum Dulcamara	-	-	-	1	85	Stonecrop white-flowered	-	-	-	1
41	nigrum	-	-	-	2	86	common yellow	-	-	-	1
49	Scandix Anthriscus	-	-	-	1	87	thick-leav'd	-	-	-	3
55	Sambucus Ebulus	-	-	-	3	134	Shepherds-purse	-	-	-	1
80	Saxifraga granulata	-	-	-	1		Speedwell procumbent garden	-	-	-	1
81	tridactylites	-	-	-	2		germander-leav'd	-	-	-	1
84	Stellaria Holostea	-	-	-	2	3	smooth-leav'd	-	-	-	1
82	Saponaria officinalis	-	-	-	2	4	ivy-leav'd	-	-	-	2
85	Sedum album	-	-	-	2	5	wall	-	-	-	2
86	acre	-	-	-	1	7	male	-	-	-	3
87	dasyphyllum	-	-	-	3	167	whistle common	-	-	-	2
88	Telephium	-	-	-	3	199	greenwort rough	-	-	-	2
100	Sempervivum tectorum	-	-	-	3	135	Sauce-alone	-	-	-	2
124	Stachys sylvatica	-	-	-	3	84	Stitchwort greater	-	-	-	2
125	palustris	-	-	-	3	82	Sopewort	-	-	-	2
126	Scutellaria galericulata	-	-	-	3	101	Strawberry barren	-	-	-	3
140	Sisymbrium sylvestris	-	-	-	3	103	Silver-weed	-	-	-	3
16	Conchus oleraceus	-	-	-	2	149	Time-tare rough-podded	-	-	-	1
174	Senecio vulgaris	-	-	-	1	150	smooth podded	-	-	-	1
119	Thymus Acinos	-	-	-	1	26	Teasle small	-	-	-	1
120	Serpyllum	-	-	-	2	27	wild	-	-	-	3
134	Thlaspi Bursa-pastoris	-	-	-	1	130	Toadflax common yellow	-	-	-	1
151	Trifolium ornithopodioides	-	-	-	2	119	Thyme Basil	-	-	-	1
152	subterraneum	-	-	-	2	120	wild	-	-	-	2
153	fragiferum	-	-	-	2	152	Trefoil subterraneous	-	-	-	2
154	agrarium	-	-	-	3	151	birds-foot true	-	-	-	2
155	repens	-	-	-	3	153	Strawberry	-	-	-	2
176	Tussilago Petasites	-	-	-	2	154	hop	-	-	-	3
177	Farfara	-	-	-	2	186	Twayblade	-	-	-	3
192	Typha major	-	-	-	3	171	Thistle milk	-	-	-	3
193	minor	-	-	-	3	164	Tutsan	-	-	-	3
1	Veronica agrestis	-	-	-	1	10	Vernal-grass sweet-scented	-	-	-	1
2	chamædrys	-	-	-	1	115	Vervain	-	-	-	1
3	serpyllifolia	-	-	-	1	180	Violet sweet-scented	-	-	-	1
4	hederifolia	-	-	-	2	181	hairy	-	-	-	1
5	arvensis	-	-	-	2	182	Dogs	-	-	-	1
6	Becabunga	-	-	-	2	184	Bog	-	-	-	3
7	officinalis	-	-	-	1	159	Vetchling yellow	-	-	-	3
46	Vinca minor	-	-	-	3	89	Wood sorrel	-	-	-	2
115	Verbena officinalis	-	-	-	1	64	Willow-herb large-flowered	-	-	-	2
150	Viola odorata	-	-	-	1	65	hoary	-	-	-	2
181	hirta	-	-	-	1	66	square-stalk'd	-	-	-	2
182	canina	-	-	-	2	67	rosebay	-	-	-	2
183	tricolor	-	-	-	1	68	wood	-	-	-	3
184	palustris	-	-	-	3	8	Water-horehound	-	-	-	3

General INDEX to the Plants of the First, Second, and Third *Fasciculi*,
as arranged according to the System of LINNÆUS.

Plate
DIANDRIA MONOGYNIA.

- 1 Veronica agrestis
- 2 Chamædrys
- 3 serpyllifolia
- 4 hederifolia
- 5 arvensis
- 6 Becabunga
- 7 officinalis
- 8 Lycopus europæus
- 9 Cirsia lutetiana

Plate
DIANDRIA DIGYNIA.

- 10 Anthoxanthum odoratum
- TRIANDRIA MONOGYNIA.

- 11 Iris Pseudacorus

TRIANDRIA DIGYNIA.

- 12 Aira aquatica
- 13 præcox

Plate

- 14 Poa annua
- 15 rigida
- 16 pratensis
- 17 trivialis
- 18 Festuca fluitans
- 19 Bromus mollis
- 20 sterilis
- 21 hirsutus
- 22 Alopecurus myosuroides
- 23 Avena flavescens
- 24 Avena elatior

Plate

- TRIANDRIA TRIGYNIA.
 25 *Montia fontana*
 TETRANDRIA MONOGYNIA.
 26 *Dipsacus pilosus*
 27 ——— *sylvestris*
 28 *Galium Aparine*
 29 *Plantago lanceolata*
 30 ——— *major*
 31 *Scabiosa Succisa*
 32 *Centunculus minimus*
 TETRANDRIA TETRAGYNIA.
 33 *Sagina procumbens*
 34 ——— *erecta*
 PENTANDRIA MONOGYNIA.
 35 *Hottonia palustris*
 36 *Anagallis arvensis*
 37 ——— *tenella*
 38 *Convolvulus sepium*
 39 ——— *arvensis*
 40 *Solanum Dulcamara*
 41 ——— *nigrum*
 42 *Lonicera Periclymenum*
 43 *Hedera Helix*
 44 *Myosotis scorpioides palust.*
 45 *Lythymachia Nummularia*
 46 *Vinca minor*
 PENTANDRIA DIGYNIA.
 47 *Conium maculatum*
 48 *Aethusa Cynapium*
 49 *Scandix Anthriscus*
 50 *Chenopodium album*
 51 ——— *viride*
 52 ——— *polyspermum*
 53 ——— *Bonus Henricus*
 PENTANDRIA TRIGYNIA.
 54 *Alfina media*
 55 *Sambucus Ebulus*
 PENTANDRIA PENTAGYNIA.
 56 *Linum catharticum*
 HEXANDRIA MONOGYNIA.
 57 *Fritillaria Meleagris*
 58 *Hyacinthus nonscriptus*
 59 *Juncus campestris*
 HEXANDRIA TRIGYNIA.
 60 *Rumex crispus*
 61 ——— *obtusifolium*
 62 ——— *acutus*
 63 ——— *maritimus*
 OCTANDRIA MONOGYNIA.
 64 *Epilobium hirsutum*
 65 ——— *villosum*
 66 ——— *tetragonum*
 67 ——— *angustifolium*
 68 ——— *montanum*
 69 *Erica tetralix*
 70 ——— *cinerea*
 OCTANDRIA DIGYNIA.
 71 *Polygonum Bistorta*
 72 ——— *Perficaria*
 73 ——— *pensylvanicum*
 74 ——— *var. caule maculato*
 75 ——— *Hydropiper*
 76 ——— *aviculare*
 77 ——— *minus*
 OCTANDRIA TETRAGYNIA.
 78 *Adoxa Moschatellina*
 ENNEANDRIA HEXAGYNIA.
 79 *Butomus umbellatus*
 DECANDRIA DIGYNIA.
 80 *Saxifraga granulata*
 81 ——— *tridactylites*
 82 *Saponaria officinalis*
 83 *Chrysosplenium oppositifolium*
 DECANDRIA TRIGYNIA.
 84 *Stellaria Holostea*
 DECANDRIA PENTAGYNIA.
 85 *Sedum album*
 86 ——— *acre*
 87 ——— *dasyphyllum*

Plate

- 88 ——— *Telephium*
 89 *Oxalis Acetofella*
 90 *Lychnis dioica*
 91 ——— *Flos cuculi*
 92 *Agrostema Githago*
 93 *Cerastium semidecandrium*
 94 ——— *viscosum*
 95 ——— *vulgatum*
 96 ——— *aquaticum*
 DODECANDRIA MONOGYNIA.
 97 *Lythrum Salicaria*
 DODECANDRIA TRIGYNIA.
 98 *Euphorbia peplus*
 99 ——— *Helioscopia*
 DODECANDRIA DODECAGYNIA.
 100 *Sempervivum tectorum*
 ICOSANDRIA POLYGYNIA.
 101 *Fragaria sterilis*
 102 *Potentilla reptans*
 103 ——— *Anserina*
 104 *Geum urbanum*
 POLYANDRIA MONOGYNIA.
 105 *Papaver Rhœas*
 POLYANDRIA POLYGYNIA.
 106 *Adonis autumnalis*
 107 *Ranunculus bulbosus*
 108 ——— *hirsutus*
 109 ——— *acris*
 110 ——— *Ficaria*
 111 ——— *auricomus*
 112 ——— *sceleratus*
 113 *Anemone nemorosa*
 114 *Caltha palustris*
 DIDYNAMIA GYMNASPERMIA.
 115 *Verbena officinalis*
 116 *Lamium purpureum*
 117 ——— *amplexicaule*
 118 ——— *album*
 119 *Thymus Acinos*
 120 ——— *Serpyllum*
 121 *Ajuga reptans*
 122 *Glechoma hederacea*
 123 *Betonica officinalis*
 124 *Stachys sylvatica*
 125 ——— *palustris*
 126 *Scutellaria galericulata*
 DIDYNAMIA ANGIOSPERMIA.
 127 *Euphrasia Odontites*
 128 *Antirrhinum Cymbalaria*
 129 ——— *Elatine*
 130 ——— *Linaria*
 131 ——— *spurium*
 132 *Digitalis purpurea*
 TETRADYNAMIA SILICULOSA.
 133 *Draba verna*
 134 *Thlaspi Bursa pastoris*
 TETRADYNAMIA SILIQUOSA.
 135 *Erysimum Alliaria*
 136 *Arabis thaliana*
 137 *Brassica muralis*
 138 *Cardamine amara*
 139 ——— *pratensis*
 140 *Sisymbrium sylvestre*
 MONADELPHIA DECANDRIA.
 141 *Geranium cicutarium*
 142 ——— *robertianum*
 143 ——— *molle*
 144 ——— *pyrenaicum*
 MONADELPHIA POLYANDRIA.
 145 *Malva sylvestris*
 146 ——— *rotundifolia*
 DIADELPHIA HEXANDRIA.
 147 *Fumaria officinalis*
 DIADELPHIA DECANDRIA.
 148 *Orobis tuberosus*
 149 *Ervum hirsutum*
 150 ——— *tetraspermum*
 151 *Trifolium ornithopodioides*
 152 ——— *subterraneum*
 153 ——— *fragiferum*

Plate

- 154 ——— *agrarium*
 155 ——— *repens*
 156 *Lotus corniculatus*
 157 *Medicago lupulina*
 158 ——— *arabica*
 159 *Lathyrus pratensis*
 POLYADELPHIA POLYANDRIA.
 160 *Hypericum pulchrum*
 161 ——— *perforatum*
 162 ——— *hirsutum*
 163 ——— *humifusum*
 164 ——— *Androsæmum*
 SYNGENESIA POLYGAMIA ÆQUALIS.
 165 *Leontodon Taraxacum*
 166 *Lapsana communis*
 167 *Sonchus oleraceus*
 168 *Hypochaeris radicata*
 169 ——— *glabra*
 170 *Bidens cernua*
 171 *Carduus marianus*
 172 *Picris echioides*
 SYNGENESIA POLYGAMIA SUPER-
 FLUA.
 173 *Erigeron acre*
 174 *Senecio vulgaris*
 175 *Bellis perennis*
 176 *Tussilago Petasites*
 177 ——— *Farfara*
 178 *Inula dysenterica*
 179 ——— *pulicaria*
 SYNGENESIA MONOGAMIA.
 180 *Viola odorata*
 181 ——— *hirta*
 182 ——— *canina*
 183 ——— *tricolor*
 184 ——— *palustris*
 GYNANDRIA DIANDRIA.
 185 *Ophrys apifera*
 186 ——— *ovata*
 187 *Orchis mascula*
 188 ——— *Morio*
 GYNANDRIA POLYANDRIA.
 189 *Arum maculatum*
 MONOECIA TRIANDRIA.
 190 *Carex pendula*
 MONOECIA POLYANDRIA.
 191 *Poterium Sanguisorba*
 192 *Typha latifolia*
 193 ——— *angustifolia*
 DIOECIA ENNEANDRIA.
 194 *Mercurialis perennis*
 DIOECIA MONADELPHIA.
 195 *Hydrocharis Morfus Ranæ*
 POLYGAMIA MONOECIA.
 196 *Atriplex hastata*
 CRYPTOGRAMIA FILICES.
 197 *Asplenium Scolopendrium*
 198 *Polypodium vulgare*
 199 *Osmunda spicant*
 CRYPTOGRAMIA MUSCI.
 200 *Bryum scoparium*
 201 ——— *undulatum*
 202 ——— *hornum*
 203 ——— *truncatum*
 204 ——— *viridulum*
 205 ——— *subulatum*
 206 *Bryum argenteum*
 207 ——— *cespitosum*
 208 *Hypnum proliferum*
 209 ——— *sericeum*
 210 ——— *purum*
 211 *Polytrichum subrotundum*
 CRYPTOGRAMIA FUNGI.
 212 *Agaricus ovatus*
 213 ——— *fimetarius*
 214 ——— *glutinosus*
 215 ——— *plicatilis*
 216 ——— *ostreatus*
 217 *Hydnum auriscalpium*
 218 *Phallus impudicus*

I N D E X I.

In which the Plants contained in the first Fasciculus are arranged according to the
System of LINNÆUS.

<i>Latin Name.</i>	<i>Class and Order.</i>
1 Veronica agrestis	DIANDRIA Monogynia.
2 Veronica Chamædrys	
3 Veronica serpyllifolia	
4 Anthoxanthum odoratum	DIANDRIA Digynia.
5 Aïra aquatica	
6 Poa annua	TRIANDRIA Digynia.
7 Festuca fluitans	
8 Bromus mollis	
9 Bromus sterilis	TETRANDRIA Monogynia.
10 Dipsacus pilosus	
11 Hottonia palustris	
12 Anagallis arvensis	PENTANDRIA Monogynia.
13 Convolvulus sepium	
14 Solanum Dulcamara	
15 Lonicera Periclymenum	PENTANDRIA Digynia.
16 Hedera Helix	
17 Conium maculatum	
18 Æthusa Cynapium	PENTANDRIA Trigynia.
19 Scandix Anthriscus	
20 Alfine media	OCTANDRIA Monogynia.
21 Erica tetralix	
22 Polygonum Bistorta	OCTANDRIA Digynia aut Trigynia.
23 Polygonum Persicaria	
24 Polygonum Pensylvanicum	
25 Polygonum var. caule maculato	
26 Polygonum Hydropiper	
27 Polygonum aviculare	
28 Polygonum minus	
29 Butomus umbellatus	
30 Saxifraga granulata	ENNEANDRIA Hexagynia.
31 Sedum album	
32 Sedum acre	DECANDRIA Digynia.
33 Lychnis Flos Cuculi	
34 Cerasium aquaticum	DECANDRIA Pentagynia.
35 Euphorbia peplus	
36 Euphorbia Helioscopia	DECANDRIA Pentagynia.
37 Potentilla reptans	
38 Ranunculus bulbosus	DODECANDRIA Trigynia.
39 Ranunculus acris	
40 Caltha palustris	ICOSANDRIA Polygynia.
41 Verbeña officinalis	
42 Lamium rubrum	POLYANDRIA Polygynia.
43 Thymus acinos	
44 Euphrasia Odontites	DIDYNAMIA Gymnospermia.
45 Antirrhinum Cymbalaria	
46 Antirrhinum Elatine	DIDYNAMIA Angiospermia.
47 Antirrhinum Linaria	
48 Digitalis purpurea	
49 Draba verna	
50 Thlaspi Bursa Pastoris	TETRADYNAMIA Siliculosa.
51 Geranium Cicutarium	
52 Geranium robertianum	MONADELPHIA Decandria.
53 Orobis tuberosus	
54 Ervum hirsutum	DIADELPHIA Decandria.
55 Ervum tetraspermum	
56 Hypericum pulchrum	POLYADELPHIA Polyandria.
57 Hypericum perforatum	
58 Leontodon Taraxacum	SYNGENESIA Polygamia Æqualis.
59 Lapsana communis	
60 Erigeron acre	SYNGENESIA Polygamia Superflua.
61 Senecio vulgaris	
62 Bellis perennis	
63 Viola odorata	
64 Viola hirta	SYNGENESIA Monogamia.
65 Viola tricolor	
66 Ophrys Apifera	GYNANDRIA Diandria.
67 Atplenium Scolopendrium	
68 Polypodium vulgare	CRYPTOGAMIA Filices.
69 Bryum scoparium	
70 Bryum undulatum	CRYPTOGAMIA Musci.
71 Bryum hornum	
72 H. num proliferum	

INDEX II.

In which the Latin Names of the Plants
are arranged Alphabetically.

	Plate.
Anthoxanthum odoratum	4
Aira aquatica	5
Anagallis arvensis	12
Alfene media	20
Antirrhinum Cymbalaria	45
Antirrhinum Elatine	46
Antirrhinum Linaria	47
Asplenium Scolopendrium	67
Æchusa Cynapium	18
Bromus mollis	8
Bromus sterilis	9
Butomus umbellatus	29
Bellis perennis	62
Bryum scoparium	69
Bryum undulatum	70
Bryum hornum	71
Convolvulus Sepium	13
Conium maculatum	17
Cerastium aquaticum	34
Caltha palustris	40
Draba verna	49
Digitalis purpurea	48
Lipifacus pilosus	10
Erica tetralix	21
Euphorbia Peplus	35
Euphorbia Helioscopia	36
Euphrasia Odontites	44
Ervum hirsutum	54
Ervum tetraspermum	55
Erigeron acre	60
Festuca fluitans	7
Geranium cicutarium	51
Geranium robertianum	52
Hottonia palustris	11
Hedera Helix	16
Hypericum pulchrum	56
Hypericum perforatum	57
Hypnum proliferum	72
Lonicera Periclymenum	15
Lychnis Flos Cuculi	33
Lamium rubrum	42
Leontodon Taraxacum	58
Lapsana communis	59
Orobis tuberosus	53
Ophrys apifera	66
Poa annua	6
Polygonum Bistorta	22
Polygonum Persicaria	23
Polygonum Pensylvanicum	24
Polygonum var. caule maculato	25
Polygonum Hydropiper	26
Polygonum aviculare	27
Polygonum minus	28
Potentilla reptans	37
Polypodium vulgare	68
Ranunculus bulbosus	38
Ranunculus acris	39
Solanum Dulcamara	14
Scandix Anthriscus	19
Saxifraga granulata	30
Sedum album	31
Sedum acre	32
Senecio vulgaris	61
Thymus acinos	43
Thlaspi Bursa Pastoris	50
Veronica agrestis	1
Veronica Chamædrys	2
Veronica serpyllifolia	3
Verbena officinalis	41
Viola odorata	63
Viola hista	64
Viola tricolor	65

INDEX III.

In which the English Names of the
Plants are arranged Alphabetically.

	Plate.
AIRA sweet tasted water	5
BROME-GRASS soft	8
BROME-GRASS barren	9
BRYUM broom	69
BRYUM curled	70
BRYUM iwan's-neck	71
BISTORT common	22
CRANE'S-BILL hemlock-leaved	51
CRANE'S-BILL stinking or herb Robert	52
CYMBALARIA Ivy-leaved	45
CHICKWEED common	20
CONVOLVULUS large white	13
CINQUEFOIL common	37
CROWFOOT round-rooted	38
CROWFOOT upright meadow	39
DAISY, common,	62
DRABA, vernal,	49
DEAD-NETTLE purple	42
DANDELION common	58
EYEBRIGHT red	44
ERIGERON purple	60
FLOWERING-RUSH	29
FOOLS-PARSLEY	18
FLUELLIN sharp-pointed	46
FOXGLOVE purple	48
FESCUE-GRASS fote	7
GROUNDSELL common	61
HARTS-TONGUE	67
HEMLOCK	17
HEATH cross-leaved	21
HOTTONIA water	11
HYPNUM proliferous	72
HONEYSUCKLE common	15
IVY	16
KNOT-GRASS common	27
MOUSEAR-CHICKWEED marsh	34
MARSH-MARIGOLD	40
NIPPLEWORT common	59
NIGHTSHADE woody	14
ORCHIS Bee	66
PIMPERNEL common	12
PINK meadow	33
PEA wood	53
POA common dwarf	6
PERSICARIA spotted leaved	23
PERSICARIA pale flowered	24
PERSICARIA spotted stalk'd	25
PERSICARIA biting	26
PERSICARIA small creeping	28
POLYPODY common	68
PANSIE wild	65
SPURGE small garden	35
SPURGE sun	36
ST. JOHN'S-WORT small upright	56
ST. JOHN'S-WORT common	57
SCANDIX rough-feeded	19
SAXIFRAGE white	30
STONECROP white flowered	31
STONECROP common yellow	32
SHEPHERDS-PURSE	50
SPEEDWELL procumbent garden	1
SPEEDWELL germander-leaved	2
SPEEDWELL smooth-leaved	3
TINE-TARE rough podded	54
TINE-TARE smooth podded	55
TEASEL small	10
TOAD FLAX common yellow	47
THYME basil	43
VERNAL-GRASS sweet-scented	4
VERVAIN	41
VIOLET sweet-scented	63
VIOLET hairy	94

I N D E X I.

In which the Plants contained in the second Fasciculus, are arranged according to the System of LINNÆUS.

Latin Name.	Class and Order.
1 Veronica hedærifolia	DIANDRIA Monogynia.
2 Veronica arvensis	
3 Veronica Becabunga	
4 Poa rigida	TRIANDRIA Monogynia.
5 Poa pratensis	
6 Poa trivialis	
7 Alopecurus myosuroides	TETRANDRIA Monogynia.
8 Bromus hirsutus	
9 Galium Aparine	
10 Plantago lanceolata	TETRANDRIA Tetragynia.
11 Plantago major	
12 Sagina erecta	PENTANDRIA Monogynia.
13 Convolvulus arvensis	
14 Solanum nigrum	PENTANDRIA Digynia.
15 Chenopodium album	
16 Chenopodium viride	HEXANDRIA Monogynia.
17 Chenopodium polyspermum	
18 Hyacinthus non scriptus	HEXANDRIA Trigynia.
19 Juncus campestris	
20 Rumex crispus	OCTANDRIA Monogynia.
21 Epilobium hirsutum	
22 Epilobium villosum	
23 Epilobium tetragonum	OCTANDRIA Tetragynia.
24 Epilobium angustifolium	
25 Erica cinerea	DECANDRIA Digynia.
26 Adoxa Moschatellina	
27 Chrysosplenium oppositifolium	DECANDRIA Trigynia.
28 Saxifraga trydactylites	
29 Saponaria officinalis	ENNEANDRIA Pentagynia.
30 Stellaria Holostea	
31 Oxalis Acetosella	
32 Lychnis dioica	ICOSANDRIA Polygynia.
33 Ceraftium femidecandrum	
34 Ceraftium vulgatum	
35 Ceraftium viscosum	POLYANDRIA Polygynia.
36 Geum urbanum	
37 Adonis autumnalis	
38 Anemone nemorosa	DIDYNAMIA Gymnospermia.
39 Ranunculus Ficaria	
40 Ranunculus hirsutus	
41 Ranunculus auricomus	TETRADYNAMIA Siliquosa.
42 Ranunculus sceleratus	
43 Ajuga reptans	
44 Glechoma hederacea	MONADELPHIA Decandria.
45 Lamium album	
46 Lamium amplexicaule	
47 Thymus Serpyllum	MONADELPHIA Polyandria.
48 Erysimum Alliaria	
49 Arabis thaliana	
50 Geranium molle	DIADELPHIA Hexandria.
51 Malva sylvestris	
52 Fumaria officinalis	
53 Trifolium ornithopodioides	DIADELPHIA Decandria.
54 Trifolium subterraneum	
55 Trifolium fragiferum	
56 Lotus corniculatus	SYNGENESIA Polygamia Aequalis.
57 Medicago lupulina	
58 Sonchus oleraceus	
59 Tussilago Petasites	SYNGENESIA Polygamia Superflua.
60 Tussilago Farfara	
61 Viola canina	
62 Orchis mascula	SYNGENESIA Monogamia.
63 Arum maculatum	
64 Poterium Sanguisorba	
65 Mercurialis perennis	GYNANDRIA Diandria.
66 Atriplex hastata	
67 Osmunda Spicant	
68 Polytrichum subrotundum	GYNANDRIA Polyandria.
69 Hypnum sericeum	
70 Bryum truncatulum	
71 Bryum viridulum	MONOECIA Polyandria.
72 Agaricus ovatus	
73 Agaricus fimetarius	

INDEX II.

In which the Latin Names of the Plants
are arranged Alphabetically.

	Plate.
Arum maculatum	63
Atriplex hastata	66
Adonis autumnalis	37
Adoxa Moschatellina	26
Arabis thaliana	49
1-22- Anemone nemorosa	38
Ajuga reptans	43
Agaricus fimetarius	73
Agaricus ovatus	72
Alopecurus myosuroides	7
Bryum truncatulum	70
Bryum viridulum	71
Bromus hirsutus	8
Chenopodium viride	16
Chenopodium album	15
Chenopodium polyspermum	17
Cerastium viscosum	35
Cerastium femidecandrum	33
Cerastium vulgatum	34
Convolvulus arvensis	13
Chrysosplenium oppositifolium	27
Epilobium villosum	22
Epilobium hirsutum	21
Epilobium angustifolium	24
Epilobium tetragonum	23
Erysimum Alliaria	48
Erica cinerea	25
Fumaria officinalis	52
Geum urbanum	36
Geranium molle	50
Glechoma hederacea	44
Galium Aparine	9
Hypnum sericeum	69
Hyacinthus non scriptus	18
Juncus campestris	19
Lamium amplexicaule	46
Lamium album	45
Lychnis dioica	32
Lotus corniculatus	56
Medicago lupulina	57
Mercurialis perennis	65
Malva sylvestris	51
Oxalis Acetosella	31
Orchis mascula	62
Osmunda Spicant	67
Poa rigida	4
Poa pratensis	5
Poa trivialis	6
Plantago major	11
Plantago lanceolata	10
Polytrichum subrotundum	68
Poterium Sanguisorba	64
Ranunculus Ficaria	39
Ranunculus hirsutus	40
Ranunculus auricomus	41
Ranunculus sceleratus	42
Rumex crispus	20
Sonchus oleraceus	58
Saxifraga tridactylites	28
Sagina erecta	12
Stellaria Holostea	30
Solanum nigrum	14
Saponaria officinalis	29
Trifolium ornithopodioides	53
Trifolium subterraneum	54
Trifolium fragiferum	55
Tussilago Petasites	59
Tussilago Farfara	60
Thymus Serpyllum	47
Veronica hederifolia	1
Veronica arvensis	2
Veronica Becabunga	3
Viola canina	61

INDEX III.

In which the English Names of the
Plants are arranged Alphabetically.

	Plate
Anemone Wood	38
Allseed	17
Avens common	36
Birds-foot-Trefoil common	56
Bryum brown	70
Bryum green	71
Butter bur	59
Bugle common	43
Brook-lime	3
Burnet	64
Brome-grass hairy stalk'd	8
Cuckow-pint	63
Convolvulus field	13
Cranes-bill doves-foot common	50
Coltsfoot	60
Campion red	32
Crowfoot pale-leaved	40
Crowfoot wood	41
Crowfoot celery-leaved	42
Cleavers common	9
Dead-nettle white	45
Dock curled	20
Fumitory common	52
Foxtail-grass field	7
Golden-Saxifrage common	27
Ground-ivy	44
Goosefoot white	15
Goosefoot purple-jointed	16
Henbit	46
Hypnum silky	69
Hyacinth english	18
Heath fine-leaved	25
Medick hop	57
Moufear Chickweed least	33
Moufear-Chickweed common	34
Moufear-Chickweed broad-leaved	35
Moschatel tuberous	26
Meadow-grass hard	4
Meadow-grass smooth-stalk'd	5
Meadow-grass rough-stalk'd	6
Mercury dogs	65
Mallow common	51
Mushroom egg	73
Mushroom puckered	72
Nightshade garden	14
Orach spear-leaved	66
Orchis early spotted	62
Pearlwort upright	12
Pheasants-eye	37
Podded-moufear	49
Pilewort	39
Plantain narrow-leaved	10
Plantain common	11
Polytrichum dwarf	68
Rush hairy field	19
Speedwell ivy-leaved	1
Speedwell wall	2
Sowthistle common	58
Saxifrage rue-leaved	28
Spleenwort rough	67
Sauce-alone	48
Stichwort greater	30
Sopewort	29
Trefoil subterraneous	54
Trefoil birds-foot true	53
Trefoil strawberry	55
Thyme wild	47
Violet dogs	61
Wood-Sorrel	31
Willow-herb large-flowered	21
Willow-herb hoary	22
Willow-herb square-stalk'd	23
Willow-herb rosebay	24

INDEX I.

In which the Plants contained in the third Fasciculus, are arranged according to the System of LINNÆUS.

Latin Name.

Class and Order.

1 Veronica officinalis	—	—	—	DIANDRIA Monogynia.
2 Lycopus europæus	—	—	—	—
3 Cirsia lutea	—	—	—	—
4 Iris Pseudacorus	—	—	—	—
5 Avena flavescens	—	—	—	—
6 ——— elatior	—	—	—	—
7 Aira præcox	—	—	—	—
8 Montia fontana	—	—	—	—
9 Dipsacus sylvestris	—	—	—	—
10 Scabiosa Succisa	—	—	—	—
11 Centunculus minimus	—	—	—	—
12 Sagina procumbens	—	—	—	—
13 Myosotis scorpioides palustris	—	—	—	—
14 Lythymachia Nummularia	—	—	—	—
15 Anagallis tenella	—	—	—	—
16 Vinca minor	—	—	—	—
17 Chenopodium Bonus Henricus	—	—	—	—
18 Sambucus Ebulus	—	—	—	—
19 Linum catharticum	—	—	—	—
20 Fritillaria Meleagris	—	—	—	—
21 Rumex acutus	—	—	—	—
22 ——— obtusifolium	—	—	—	—
23 ——— maritimus	—	—	—	—
24 Epilobium montanum	—	—	—	—
25 Sedum Telephium	—	—	—	—
26 ——— dasyphyllum	—	—	—	—
27 Agrostema Githago	—	—	—	—
28 Lythrum Salicaria	—	—	—	—
29 Sempervivum tectorum	—	—	—	—
30 Fragaria sterilis	—	—	—	—
31 Potentilla Anserina	—	—	—	—
32 Papaver Rhœas	—	—	—	—
33 Betonica officinalis	—	—	—	—
34 Stachys sylvatica	—	—	—	—
35 ——— palustris	—	—	—	—
36 Scutellaria galericulata	—	—	—	—
37 Antirrhinum spurium	—	—	—	—
38 Brassica muralis	—	—	—	—
39 Cardamine amara	—	—	—	—
40 ——— pratensis	—	—	—	—
41 Sisymbrium sylvestris	—	—	—	—
42 Geranium pyrenaicum	—	—	—	—
43 Malva rotundifolia	—	—	—	—
44 Lathyrus pratensis	—	—	—	—
45 Trifolium agrarium	—	—	—	—
46 ——— repens	—	—	—	—
47 Medicago arabica	—	—	—	—
48 Hypericum Androsæmum	—	—	—	—
49 ——— hirsutum	—	—	—	—
50 ——— humifusum	—	—	—	—
51 Picris echioides	—	—	—	—
52 Hypochaeris radicata	—	—	—	—
53 ——— glabra	—	—	—	—
54 Carduus marianus	—	—	—	—
55 Bidens cernua	—	—	—	—
56 Inula dysenterica	—	—	—	—
57 ——— pulicaria	—	—	—	—
58 Viola palustris	—	—	—	—
59 Orchis Morio	—	—	—	—
60 Ophrys ovata	—	—	—	—
61 Typha latifolia	—	—	—	—
62 ——— angustifolia	—	—	—	—
63 Carex pendula	—	—	—	—
64 Hydrocharis Morfus Ranæ	—	—	—	—
65 Hypnum purum	—	—	—	—
66 Bryum subulatum	—	—	—	—
67 Bryum argenteum	—	—	—	—
68 ——— cespitium	—	—	—	—
69 Hydnum auriscalpium	—	—	—	—
70 Agaricus glutinosus	—	—	—	—
71 ——— plicatilis	—	—	—	—
72 ——— ostreatus	—	—	—	—
73 Phallus impudicus	—	—	—	—

INDEX II.

In which the Latin Names of the Plants
are arranged Alphabetically.

	Plate.
Avena flavescens	5
— elatior	6
Aira præcox	7
Anagallis tenella	15
Agrostema Githago	27
Antirrhinum spurium	37
Agaricus glutinosus	69
— plicatilis	70
— ostreatus	71
Betonica officinalis	33
Brassica muralis	38
Bidens cernua	55
Bryum subulatum	66
— argenteum	67
— cespititium	67
Circæa lutetiana	3
Centunculus minimus	11
Chenopodium Bonus Henricus	17
Cardamine amara	39
— pratensis	40
Carduus marianus	54
Carex pendula	63
Dipsacus sylvestris	9
Epilobium montanum	24
Fritillaria Meleagris	20
Fragaria sterilis	30
Geranium pyrenaicum	42
Hypericum Androsæmum	48
— hirsutum	49
— humifusum	50
Hypochaeris radicata	52
— glabra	53
Hydrocharis Morfus Ranæ	64
Hypnum purum	65
Hydnum auriscalpium	68
Iris Pseudacorus	4
Inula dysenterica	56
— pulicaria	57
Lycopus europæus	2
Lythamachia Nummularia	14
Linum catharticum	19
Lythrum Salicaria	23
Lathyrus pratensis	44
Montia fontana	8
Myosotis scorpioides	13
Malva rotundifolia	43
Medicago arabica	47
Orchis morio	59
Ophrys ovata	60
Potentilla Anserina	31
Papaver Rhœas	32
Picris echioides	51
Phallus impudicus	72
Rumex acutus	21
— obtusifolium	22
— maritimus	23
Scabiosa Succisa	10
Sagina procumbens	12
Sambucus Ebulus	18
Sedum Telephium	25
— dasyphyllum	26
Sempervivum tectorum	29
Stachys sylvatica	34
— palustris	35
Scutellaria galericulata	36
Sisymbrium sylvestre	41
Trifolium agrarium	45
— repens	46
Typha latifolia	61
— angustifolia	62
Veronica officinalis	1
Vinca minor	16
Viola palustris	58

INDEX III.

In which the English Names of the
Plants are arranged Alphabetically.

	Plate.
All heal	35
Betony wood	33
Bryum awl-shaped	66
— silvery	67
— matted	67
Blinks	8
Cockle	27
Carex pendulous	63
Cranes-bill mountain	42
Claver	47
Clover Dutch	46
Catftail broad leaved	61
— narrow-leaved	62
Dock sharp-pointed	21
— broad-leaved	22
— narrow-leaved	23
Devils bit	10
Enchanters-Nightshade common	3
Elder dwarf	18
Flax purging	19
Fluellin round-leaved	37
Fritillary common	20
Frog-bit	64
Flag yellow	4
Fleabane common	56
— small	57
Good King Henry	17
Hawkweed long-rooted	52
— small flowered	53
Hypnum meadow	65
Hydnum ear-picker	68
Houfeleek	29
Hair-grafs early	7
Hemp-agrimony nodding	55
Hooded-Willow-herb common	36
Ladies-smock common	39
— bitter	40
Loofestripe purple-spiked	28
Mushroom slimy	69
— plaited	70
— oyster	71
Moneywort	14
Moufear-scorpion-grafs	13
Mallow round-leaved	43
Morell stinking	72
Nettle-hedge	34
Orpine	25
Oat-grafs yellow	5
— tall	6
Orchis meadow	59
Ox-tongue	51
Pimpernel bog	15
Pimpernel-bastard	11
Poppy smooth round-headed	32
Pearlwort procumbent	12
Periwinkle small	16
Rocket stinking	38
— water	41
Strawberry barren	30
Saint John's Wort hairy	49
— trailing	50
Silver-weed	31
Stonecrop thick-leaved	26
Speedwell male	1
Trefoil hop	45
Twayblade	60
Thistle milk	54
Teasel wild	9
Tutfan	48
Vetchling yellow	44
Violet bog	58
Willow-herb wood	24
Water-horehound	2

I N D E X I.

In which the Plants contained in the fifth Fasciculus are arranged according
to the System of LINNÆUS.

<i>Latin Name.</i>	<i>Class and Order.</i>
1 Ligustrum vulgare.....	DIANDRIA Monogynia.
2 Veronica Anagallis.....	
3 Veronica scutellata.....	
4 Valeriana Locusta.....	TRIANDRIA Monogynia.
5 Alopecurus pratensis.....	
6 Alopecurus geniculatus.....	
7 Bromus giganteus.....	TRIANDRIA Digynia.
8 Holcus mollis.....	
9 Hordeum murinum.....	
10 Melica uniflora.....	TETRANDRIA Monogynia.
11 Melica cærulea.....	
12 Poa aquatica.....	
13 Sherardia arvensis.....	TETRANDRIA Tetragynia.
14 Sagina apetala.....	
15 Potamogeton crispum.....	
16 Atropa Belladonna.....	PENTANDRIA Monogynia.
17 Lycopsis arvensis.....	
18 Lyfimachia nemorum.....	
19 Lyfimachia vulgaris.....	PENTANDRIA Digynia.
20 Chenopodium olidum.....	
21 Scandix Pecten.....	
22 Linum usitatissimum.....	PENTANDRIA Pentagynia.
23 Leucojum æstivum.....	
24 Convallaria majalis.....	
25 Juncus pilosus.....	HEXANDRIA Monogynia.
26 Juncus sylvaticus.....	
27 Alisma Plantago.....	
28 Alisma Damasonium.....	HEXANDRIA Polygynia.
29 Rumex Acetofella.....	
30 Erica vulgaris.....	
31 Spergula arvensis.....	HEXANDRIA Trigynia.
32 Agrimonia Eupatoria.....	
33 Spiræa Ulmaria.....	
34 Rosa canina.....	OCTANDRIA Monogynia.
35 Tormentilla officinalis.....	
36 Cistus Helianthemum.....	
37 Papaver dubium.....	DECANDRIA Pentagynia.
38 Papaver Argemone.....	
39 Origanum vulgare.....	
40 Teucrium Scorodonia.....	DODECANDRIA Digynia.
41 Antirrhinum minus.....	
42 Euphrasia officinalis.....	
43 Rhinanthus Crista Galli.....	ICOSANDRIA Pentagynia.
44 Schrophularia aquatica.....	
45 Thlaspi campestre.....	
46 Sinapis alba.....	ICOSANDRIA Polygynia.
47 Sinapis arvensis.....	
48 Sifymbrium Irio.....	
49 Sifymbrium terrestre.....	POLYANDRIA Monogynia.
50 Erysimum officinale.....	
51 Lathyrus Aphaca.....	
52 Spartium Scoparium.....	DIDYNAMIA Gymnospermia.
53 Trifolium procumbens.....	
54 Vicia Cracca.....	
55 Crepis testorum.....	DIDYNAMIA Angiospermia.
56 Leontodon hispidum.....	
57 Onopordum Acanthium.....	
58 Prenanthes muralis.....	TETRADYNAMIA Siliculosa.
59 Sonchus palustris.....	
60 Achillea Ptarmica.....	
61 Anthemis Cotula.....	TETRADYNAMIA Siliquosa.
62 Chrysanthemum Leucanthemum.....	
63 Matricaria Chamomilla.....	
64 Senecio erucæfolius.....	DIADELPHIA Decandria.
65 Orchis latifolia.....	
66 Sparganium ramosum.....	
67 Sparganium simplex.....	SYNGENESIA Polygamia æqualis.
68 Mercurialis annua.....	
69 Agaricus aurantius.....	
70 Agaricus æruginosus.....	SYNGENESIA Polygamia superflua.
71 Agaricus carnosus.....	
72 Agaricus verrucosus.....	
	GYNANDRIA Diandria.
	MONÆCIA Triandria.
	DICECIA Enneandria.
	CRYPTOGAMIA Fungi.

I N D E X II.

Latin Names of the Plants in the fifth Fasciculus, arranged Alphabetically.

	Plate
Achillea Ptarmica	60
Agaricus aurantius	69
Agaricus æruginosus	70
Agaricus carnosus	71
Agaricus verrucosus	72
Agrimonia Eupatoria	32
Alisma Plantago	27
Alisma Damalonium	28
Alopecurus pratensis	5
Alopecurus geniculatus	6
Anthemis Cotula	61
Antirrhinum minus	41
Atropa Belladonna	16
Bromus giganteus	7
Chenopodium olidum	20
Chrysanthemum Leucanthemum	62
Cistus Helianthemum	36
Convallaria majalis	24
Crepis tectorum	55
Erica vulgaris	30
Erysimum officinale	50
Euphrasia officinalis	42
Holcus mollis	8
Hordeum murinum	9
Juncus pilosus	25
Juncus sylvaticus	26
Lathyrus Aphaca	51
Leontodon hispidum	56
Leucojum æstivum	23
Ligustrum vulgare	1
Linum usitatissimum	22
Lycopsis arvensis	17
Lyfimachia nemorum	18
Lyfimachia vulgaris	19
Matricaria Chamomilla	63
Melica uniflora	10
Melica cærulea	11
Mercurialis annua	68
Onopordum Acanthium	57
Orchis latifolia	65
Origanum vulgare	39
Papaver dubium	37
Papaver Argemone	38
Poa aquatica	12
Potamogeton crispum	15
Prenanthes muralis	58
Rhinanthus Crista Galli	43
Rosa canina	34
Rumex Acetofella	29
Sagina apetala	14
Scandix Pecten	21
Schrophularia aquatica	44
Senecio erucæfolius	64
Sherardia arvensis	13
Sinapis alba	46
Sinapis arvensis	47
Sisymbrium Irio	48
Sisymbrium terrestre	49
Sonchus palustris	59
Sparganium ramosum	66
Sparganium simplex	67
Spartium scoparium	52
Spergula arvensis	31
Spiræa Ulmaria	33
Teucrium Scorodonia	40
Thlaspi campestre	45
Tormentilla officinalis	35
Trifolium procumbens	53
Valeriana Locusta	4
Veronica scutellata	3
Veronica Anagallis	2
Vicia Cracca	54

I N D E X III.

English Names of the Plants in the fifth Fasciculus, arranged Alphabetically.

	Plate
AGRIMONY	32
BARLEY-GRASS wall	9
BLITE stinking	20
BROME-GRASS tall	7
BROOM common	31
BUGLOSS field	17
BURR-REED great	66
BURR-REED small	67
CHAMOMILE corn	63
CHARLOCK	47
CISTUS dwarf	36
CORN-SALLAD	4
COTTON-THISTLE	57
DANDELION rough	56
DWALE, or DEADLY NIGHTSHADE	16
EYEBRIGHT common	42
FIGWORT water	44
FLAX common	22
FOXTAIL-GRASS jointed	6
FOXTAIL-GRASS meadow	5
GERMANDER sage-leav'd	40
HEDGE-MUSTARD	50
HEATH common	30
LILY OF THE VALLEY	24
LOOSE STRIFE yellow	19
MARJORAM wild	39
MAYWEED stinking	61
MEADOW-GRASS water	12
MEADOW-SWEET	33
MELIC-GRASS single-flower'd	10
MELIC-GRASS blue	11
MERCURY annual	68
MITHRIDATE-MUSTARD	45
MONEYWORT wood	18
MUSHROOM fleshy	71
MUSHROOM warty	72
MUSHROOM orange	69
MUSHROOM verdigris	70
MUSTARD white	46
ORCHIS marsh	65
OXEYE common	62
PEARLWORT annual	14
PONDWEED curled	15
POPPY long prickly-headed	38
POPPY long smooth-headed	37
PRENANTHES, or WILD LETTUCE	58
PRIVET, or PRIM	1
RAGWORT hoary	64
ROCKET London	48
ROSE dog	34
RUSH small hairy wood	25
RUSH great hairy wood	26
SHEPHERDS-NEEDLE	21
SHERARDIA field	13
SNEESEWORT	60
SNOWFLAKE summer	23
SOFT-GRASS creeping	8
SORREL sheeps	29
SOW-THISTLE tree	59
SPEEDWELL bog	3
SPEEDWELL water	2
SPURREY corn	31
SUCCORY HAWKWEED smooth	55
TOAD-FLAX leaf	41
TORMENTIL	35
TREFOIL procumbent	53
VETCH tufted	54
VETCHLING yellow	51
WATER-PLANTAIN starry-headed	28
WATER-PLANTAIN greater	27
WATER-RADISH annual	49
YELLOW-RATTLE	43

I N D E X I.

In which the Plants contained in the sixth Fasciculus are arranged according
to the System of LINNÆUS.

<i>Latin Name.</i>	<i>Class and Order.</i>
1 Salvia verbenaca	DIANDRIA Monogynia.
2 Veronica triphyllos	
3 Valeriana officinalis	TRIANDRIA Monogynia.
4 Melica nutans	
5 Bromus diandrus	TRIANDRIA Digynia.
6 Aira caryophyllea	
7 Festuca pratensis	
8 Festuca elatior	
9 Festuca loliacea	
10 Poa retroflexa	TETRANDRIA Monogynia.
11 Poa procumbens	
12 Agrostis setacea	
13 Galium verum	PENTANDRIA Monogynia.
14 Primula farinosa	
15 Primula officinalis	
16 Primula acaulis	
17 Datura Stramonium	
18 Pulmonaria maritima	PENTANDRIA Digynia.
19 Hydrocotyle vulgaris	
20 Chenopodium murale	
21 Chenopodium rubrum	
22 Caucalis Anthriscus	
23 Caucalis infesta	HEXANDRIA Monogynia.
24 Chærophyllum temulum	
25 Scilla autumnalis	DECANDRIA Digynia.
26 Saxifraga Hirculus	
27 Saxifraga oppositifolia	DECANDRIA Trigynia.
28 Stellaria uliginosa	
29 Ceraftium arvense	DECANDRIA Pentagynia.
30 Ceraftium pumilum	
31 Ceraftium tetrandrum	POLYANDRIA Monogynia.
32 Glaucium corniculatum	
33 Cistus guttatus	POLYANDRIA Polygynia.
34 Helleborus viridis	
35 Anemone apennina	
36 Ranunculus arvensis	
37 Ranunculus Flammula	
38 Galeopsis vericolor	DIDYNAMIA Gymnospermia.
39 Melittis Melissophyllum	
40 Melissa Nepeta	DIDYNAMIA Angiospermia.
41 Antirrhinum Peloria	
42 Iberis nudicaulis	TETRADYNAMIA Siliculosa.
43 Thlaspi arvense	
44 Sifymbrium Nasturtium	TETRADYNAMIA Siliquosa.
45 Geranium dissectum	
46 Geranium parviflorum	MONADELPHIA Decandria.
47 Fumaria capreolata	
48 Trifolium scabrum	DIADELPHIA Hexandria.
49 Trifolium ochroleucum	
50 Trifolium arvense	DIADELPHIA Decandria.
51 Lathyrus Nissolia	
52 Lathyrus Sylvestris	
53 Ornithopus perpusillus	
54 Carduus polyacanthos	
55 Carduus tenuiflorus	SYNGENESIA Polygamia Æqualis.
56 Carduus palustris	
57 Carduus arvensis	
58 Hieracium umbellatum	
59 Leontodon hirtum	
60 Chrysanthemum segetum	SYNGENESIA Polygamia Superflua.
61 Achillea Millefolium	
62 Centaurea Cyanus	SYNGENESIA Polygamia Frustranea.
63 Lobelia urens	
64 Orchis fusca	SYNGENESIA Monogamia.
65 Orchis bifolia	
66 Ophrys anthropophora	GYNANDRIA Digynia.
67 Ophrys fucifera	
68 Carex ventricosa	MONOECIA Triandria.
69 Urtica dioica	
70 Urtica urens	MONOECIA Tetrandria.
71 Salix monandra	
72 Salix triandra	DIOECIA Diandria.

I N D E X II.

Latin Names of the Plants in the sixth Fasciculus, arranged Alphabetically.

	Plate
Achillea Millefolium	61
Agrostis setacea	12
Aira caryophylla	6
Anemone apennina	35
Antirrhinum Peloria	41
Bromus diandrus	5
Carduus polyacanthos	54
Carduus tenuiflorus	55
Carduus palustris	56
Carduus arvensis	57
Carex ventricosa	68
Caucalis Anthriscus	22
Caucalis infesta	23
Centaurea Cyanus	62
Cerastium arvense	29
Cerastium pumilum	30
Cerastium tetrandrum	31
Chenopodium murale	20
Chenopodium rubrum	21
Chærophyllum temulum	24
Chrysanthemum segetum	60
Cistus guttatus	33
Datura Stramonium	17
Festuca pratensis	7
Festuca elatior	8
Festuca loliacea	9
Fumaria capreolata	47
Galeopsis vericolor	38
Galium verum	13
Geranium dissectum	45
Geranium parviflorum	46
Glaucium corniculatum	32
Helleborus viridis	34
Hieracium umbellatum	58
Hydrocotyle vulgaris	19
Iberis nudicaulis	42
Lathyrus sylvestris	52
Lathyrus Nissolia	51
Leontodon hirtum	59
Lobelia urens	63
Melica nutans	4
Melissa Nepeta	40
Melittis Melissophyllum	39
Ophrys anthropophora	66
Ophrys fucifera	67
Orchis fusca	64
Orchis bifolia	65
Ornithopus perpusillus	53
Poa retroflexa	10
Poa procumbens	11
Primula farinosa	14
Primula officinalis	15
Primula acaulis	16
Pulmonaria maritima	18
Ranunculus arvensis	36
Ranunculus Flammula	37
Salix monandra	71
Salix triandra	72
Salvia verbenaca	1
Saxifraga Hirculus	26
Saxifraga oppositifolia	27
Scilla autumnalis	25
Sisymbrium Nasturtium	44
Stellaria uliginosa	28
Thlaspi arvense	43
Trifolium scabrum	48
Trifolium arvense	50
Trifolium ochroleucum	49
Urtica dioica	69
Urtica urens	70
Valeriana officinalis	3
Veronica triphyllos	2

I N D E X III.

English Names of the Plants in the sixth Fasciculus, arranged Alphabetically.

	Plate
Agrostis Sheep's fescue-leaved	12
Anemone mountain	35
Bastard-Balm	39
Bedstraw yellow	13
Bird's-eye	14
Bird's-foot common	53
Blue-bottle corn	62
Brome-grass diandrous	5
Calamint field	40
Carex turgid	68
Caucalis hedge	22
Caucalis corn	23
Cistus spotted-flowered	33
Clover yellow	49
Corn-marygold	60
Cow-parsley small	24
Cowslip	15
Cranes-bill jagged	45
Cranes-bill small-flowered	46
Crowfoot corn	36
Dandelion deficient	59
Everlasting-Pea narrow-leaved	52
Fescue-grass meadow	7
Fescue-grass tall	8
Fescue-grass darnel	9
Fumitory ramping	47
Galeopsis particoloured	38
Goosefoot nettle-leaved	20
Goosefoot small-seeded	21
Hair-grass silver	6
Hawkweed bushy	58
Hellebore green	34
Horned-Poppy red	32
Lathyrus crimson	51
Lobelia acrid	63
Lung-wort sea	18
Melic-grass mountain	4
Meadow-grass reflexed	10
Meadow-grass procumbent	11
Mouse-Ear Chickweed corn	29
Mouse-Ear Chickweed dwarf	30
Mouse-Ear Chickweed tetrandrous	31
Nettle great	69
Nettle small	70
Ophrys man	66
Ophrys green-winged	67
Orchis great	64
Orchis butterfly	65
Peloria	41
Penny-crefs	43
Penny-wort marsh	19
Primrose	16
Rock-crefs	42
Sage or Clary wild	1
Saxifrage marsh	26
Saxifrage purple	27
Spearwort small	37
Speedwell trid	2
Squill autumnal	25
Stichwort bog	28
Thistle prickliest	54
Thistle slender-flowered	55
Thistle marsh	50
Thistle cursed	57
Thornapple	17
Trefoil rough	48
Trefoil haresfoot	50
Valerian wild	3
Water-crefs	44
Willow bitter	71
Willow three-threaded	72
Yarrow common	61

2

2



(

Hippuris vulgaris.

HIPPURIS VULGARIS. MARES-TAIL.

HIPPURIS *Lin. Gen. Pl.* MONANDRIA MONOGYNIA.

Cal. o. Petala o. Stigma simplex. Sem. 1.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

HIPPURIS *vulgaris. Lin. Syst. Vegetab. p. 51. Sp. Pl. p. 6. Fl. Suec. n. 2.*

PINASTELLA. *Dillen. Nov. Gen. p. 168.*

LIMNOPEUCE. *Haller. Hist. p. 264. Vaillant. Mem. de l'Acad. anno 1716, t. 1. f. 3.*

POLYGONUM *fœmina. Matth. in Diosc. p. 952. Dodon. Pempt. p. 113.*

EQUISETUM *palustre brevioribus foliis polyspermon. C. B. pin. 15.*

EQUISETUM *palustre alterum brevioribus fetis. Park. 1200.*

CAUDA EQUINA *fœmina. Ger. emac. 1114. Raii Syn. p. 136. Hudson. Fl. Angl. ed. 2. p. 2. Lightfoot Fl. Scot. p. 70.*

RADIX perennis, repens, geniculata, alba, geniculis plurimis fibris capillata.	ROOT perennial, creeping, jointed and white, the joints furnished with numerous capillary fibres.
CAULES plurimi, sesquipedales et ultra, erecti, simplices, glabri, striati, teretes, spongiosi, fig. 1. medulla filiformi, compacta, in radicibus tenaci.	STALKS numerous, a foot and a half or more in height, upright, simple, smooth, striated, round, spongy, fig. 1. the pith like a thread in the center, compact, and in the roots tough.
FOLIA verticillata, octo circiter, brevina, linearia, glaberrima, avenia, ad lentem punctata, punctis excavatis.	LEAVES growing in whirls, about eight in number short, linear, perfectly smooth, without veins, dotted when magnified, the dots appearing hollow.
FLORES hermaphroditi plerumque, presertim vere, ad finem ætatis plures fœmineos observavi, axillares, sessiles.	FLOWERS for the most part hermaphrodite, especially in the spring, at the close of the summer I have observed many of them to be female, growing in the axæ of the leaves, and sessile.
CALYX nullus.	CALYX none.
COROLLA nulla.	COROLLA none.
STAMEN : FILAMENTUM unicum, apici germinis infidens, primo brevissimum, demisso polline longitudine pistilli. ANTHERA biloba, purpurascens, majuscula, fig. 2, 3.	STAMEN : a single FILAMENT, sitting on the top of the germen, at first very short, on shedding the pollen becoming as long as the pistillum. ANTHERA composed of two lobes, purplish and rather large, fig. 2, 3.
PISTILLUM : GERMEN oblongum. STYLUS brevissimus, nudus. STIGMA subulatum, album, ad lentem villosum, fig. 4, 5, 6.	PISTILLUM : GERMEN oblong. STYLE very short, naked. STIGMA tapering to a point, white and downy when magnified, fig. 4, 5, 6.
PERICARPIUM nullum.	SEED-VESSEL none.
SEMEN unicum, oblongum, nudum, subosseum, intus album, medio fuscum, membranâ seu arillo tenui obtectum, fig. 7, 8, 9.	SEED single, oblong, naked, hard, white within, and in the center brown, covered with a thin membrane or arillus, fig. 7, 8, 9.

Greater simplicity in the construction of a flower can scarcely exist than in the *Hippuris*. Here we have neither calyx, corolla, nor seed-vessel; and those parts which are universally considered as essential to the fructification are in the present instance as few as possible, there being only one stamen, with its corresponding pistillum, yet perfect seed, and that in considerable quantity, is produced.

The *Hippuris* here described, which takes its name from the Greek ἵππυρις, five *Cauda equina*, is not the *Hippuris* of the first Botanists. They applied the term to our *Equisetum*, the *Hippuris* of LINNÆUS is the *Polygonum fœmina* of DIOSCORIDES, and arranged by his commentator MATTHIOLUS with our *Polygonum aviculare* and *Herniaria*. Succeeding Botanists imagining, from the growth of its leaves, or from its producing seed, that it had better pretensions to be ranked with the *Equisetum*, absurdly enough called it *Cauda equina fœmina*, to which Mr. HUDSON could not well avoid giving the English name of *Mares-tail*.

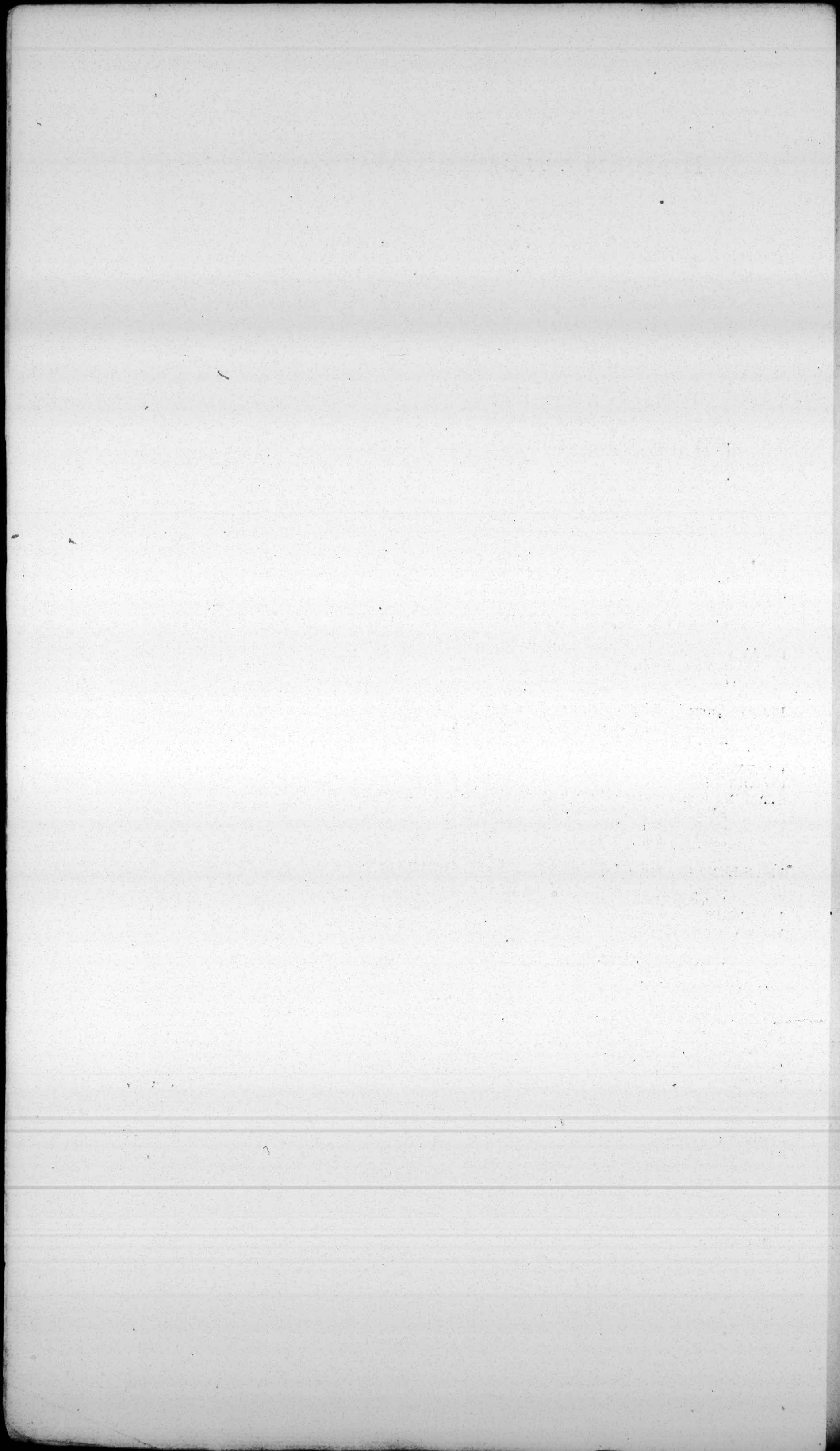
Although common in many parts of *Great Britain*, this plant is very rare about *London*, Mr. HUDSON mentions it as growing in a part of the New River near *Hornsey*, where it may still be found.

It flowers and produces its seeds from *June* to *August*.

In running streams it is frequently extended to a great length; and we have been informed, that in some rivers it is an exceedingly troublesome weed, which we can the more readily believe, having experienced its roots to be of the most powerfully creeping kind.

A transverse section of its stalk is a beautiful microscopic object.

On examining this plant we have sometimes found its flowers to be female only.







Ligustrum vulgare.

sculpt. del. et incid.

LIGUSTRUM VULGARE. PRIVET or PRIM.

LIGUSTRUM *Lin. Gen. Pl.* DIANDRIA MONOGYNIA.

Cor. 4 fida. *Bacca* tetrasperma.

Raii Syn. ARBORES BACCIFERÆ.

LIGUSTRUM *vulgare.* *Lin. Syst. Vegetab.* p. 54. *Sp. Pl.* p. 10. *Fl. Suec.* n. 5. *Haller. Hist.* n. 530. *Scopoli Flor. Carniol.* n. 4. *Hudson. Fl. Angl.* ed. 2. p. 3. *Lightfoot Fl. Scot.* p. 72.

LIGUSTRUM *Germanicum.* *Bauh. Pin.* 475. *Ger. em.* p. 1394 *Parkinson.* p. 1446. *Raii Syn.* p. 465. Privet or Prim.

FRUTEX sepedalis circiter, ramosus, cortex ex cinereo virefcens, punctis plurimis sparsis prominulis exasperata: rami oppositi, junioribus flexilibus, purpurascens.

FOLIA opposita, brevissime petiolata, ovato-lanceolata, utrinque glabra, integerrima, inferioribus ad extremum ramulorum minoribus.

FLORES albi, odorati, paniculati.

PANICULA biuncialis, densa, subpyramidata.

RAMI paniculæ ut pedicelli ad lentem villosi.

CALYX: PERIANTHIUM monophyllum, minimum, hæmisphæricum, albidum, ore quadridentato, dentibus erectis, minimis, *fig. 1.*

COROLLA monopetala, infundibuliformis, alba, cito rufescens. *Tubus* cylindraceus, longior calyce. *Limbus* quadripartitus, patens, laciniis ovatis crassius, obtusis, *fig. 2.*

STAMINA: FILAMENTA duo, opposita, brevissima, alba. ANTHERÆ majusculæ, erectæ, longitudine fere corollæ. POLLEN flavescens, *fig. 3.*

PISTILLUM: GERMEN subrotundum. STYLUS filiformis, albus, superne paululum incrassatus. STIGMA obtusum, crassiusculum, vix manifeste bifidum, *fig. 4.*

PERICARPIUM: BACCA globosa, glabra, nigra, unilocularis, *fig. 5.*

SEMINA tria five quatuor, hinc convexa, inde angulata, *fig. 6.*

A SHRUB, usually about six feet high, branched, the bark of a greenish-ash colour, irregularly sprinkled with numerous prominent points; branches opposite, the young ones flexible and purplish.

LEAVES opposite, standing on very short foot-stalks, ovato-lanceolate, smooth on each side, perfectly entire, the lower ones at the bottoms of the small branches least.

FLOWERS white, sweet-scented, forming a panicle.

PANICLE about two inches in length, close and somewhat pyramidal.

BRANCHES of the panicle, as well as the flower-stalks, villous when magnified.

CALYX: a PERIANTHIUM of one leaf, very small, hemispherical, and whitish, the mouth having four teeth, which are upright and very minute, *fig. 1.*

COROLLA of one petal, funnel-shaped, white, soon changing to a reddish-brown colour. The tube cylindrical, longer than the calyx. Limb deeply divided into four segments, which are spreading, ovate, thick, and obtuse, *fig. 2.*

STAMINA: two FILAMENTS, opposite, very short and white. ANTHERÆ rather large, upright, almost the length of the corolla. POLLEN yellowish, *fig. 3.*

PISTILLUM: GERMEN roundish. STYLE filiform, white, a little thickened above. STIGMA obtuse, thickish, scarce perceptibly bifid, *fig. 4.*

SEED-VESSEL: a round, smooth, shining, black, berry of one cavity, *fig. 5.*

SEEDS three or four, convex on one side, and angular on the other, *fig. 6.*

Previous to the publication of the *Flora Japonica* by Professor THUNBERG*, the present celebrated successor to the immortal LINNÆUS, Botanists were acquainted with one species of *Ligustrum* only. That gentleman describes another, to which he gives the name of *japonicum*, and characterises the two in the following manner:

Ligustrum vulgare foliis ovatis obtusis, panicula simpliciter trichotoma.

Ligustrum japonicum foliis ovatis acuminatis panicula decompositi trichotoma.

In point of utility, not to say ornament, few of our English or even foreign shrubs exceed the common Privet. Its chief use is to form such hedges as are required in the dividing of gardens for shelter or ornament; the Italian or ever-green Privet, as it is called, which is only a variety of the common species, is usually preferred for this purpose. The Privet bears clipping admirably well; is not liable to be disfigured by insects, and having roots formed only of fibres, it robs the ground less than almost any other shrub. It is found to thrive better in the smoke of great cities than most others; so that whoever has a little garden in such places, and is desirous of having a few plants that look green and healthy, may be gratified in the Privet, because it will flourish and look well there. MILLER says it will grow well under the shade and drip of trees.

The best mode of raising Privet is from seeds, though it is capable of being propagated by layers and cuttings.

The Privet is not apt to be eaten by cattle, and the *Sphinx Ligustri*, or *Privet Hawk Moth*, one of the largest as well as the most beautiful insects we have, is almost the only one that feeds on it in its Caterpillar state. There are few gardens having Privet in which this Caterpillar may not be found in the months of August and September. The readiest way of discovering it is by its dung, which is sufficiently visible under those shrubs on which it feeds. The *Meloe vesicatorius*, commonly known by the name of Cantharides, or Blister-beetle, is found also on the leaves of this shrub. The berries of the Privet continue on the plant till spring advances, and in times of scarcity are eaten by different sorts of birds; but by none with so much avidity as the *Bulfinch* (*Loxia Pyrrhula*). Bird-catchers who know this, often catch them in the following manner: they take some large boughs of the Privet in berry, stick them into the ground where Bulfinches frequent, lime the top twigs, and place a call bird underneath.

The berries are also recommended in dying, colouring of wines, and as affording a purple colour to stain prints; but for these several purposes there are much better materials in common use.

It usually grows in woods and hedges; is not nice in its soil or situation, but flourishes most in a moist soil; flowers in July, and ripens its berries in Autumn.

It is found with three leaves at a joint, with variegated leaves, and white berries. HALLER.

* Caroli Petri Thunberg *Flora Japonica*, Lipsiæ 1784.





Veronica officinalis.



VERONICA OFFICINALIS. MALE SPEEDWELL.

VERONICA *Lin. Gen. Pl.* DIANDRIA MONOGYNIA

Cor. Limbo 4. partito, laciniâ infima angustiore. *Capsula* bilocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

VERONICA *officinalis* spicis lateralibus pedunculatis, foliis oppositis, caule procumbente *Lin. Syst. Vegetab.* p. 56 *Sp. Pl.* 14. *Fl. Suec.* n. 12.

VERONICA caule decumbente, foliis scabris, petiolatis, ovatis, ex alis racemosa. *Haller Hist. n.* 540.

VERONICA *officinalis.* *Scopoli. Fl. Carn.* n. 21.

VERONICA mas supina et vulgarissima *Bauh. pin.* 246.

VERONICA vera et major. *Ger. emac.* 626.

VERONICA mas vulgaris supina. *Parkins.* 550. *Raii. Syn.* p. 281. The male Speedwell or Fluellin.

Hudson. Fl. Angl. ed. 2. p. 4.

Lightfoot Fl. Scot. p. 27.

Oeder Fl. Dan. 1. 248.

RADIX perennis, fibrosa.

CAULES palmares seu spithamæi, teretes, hirsuti, rigidi, repentes.

FOLIA opposita, petiolata, presertim inferiora, hirsutula, ferrata, pollicaria, inferiora basi angustata, superiora ovali-oblonga, obtusa, paulo majora, subsessilia.

RACEMI solitarii, five gemini, in summitate laterales, axillares ex foliis, pedunculati, erecti, nudi, pubescentes, floribus sparsis, brevius pedicellatis.

BRACTEÆ ad flores, solitariae, lineares, obtusæ, pubescentes, longitudinis vix calycis, erectæ.

CALYX: PERIANTHIUM monophyllum, quadripartitum, hirsutum, pilis apice glanduligeris, laciniis ovato lanceolatis subæqualibus. *fig. 1.*

COROLLA monopetala, rotata; *Tubus* brevis, albidus, *Limbus* quadripartitus, dilute violaceus, venis saturatioribus pictus, laciniis ovatis, obtusis, inæqualibus; tribus majoribus subæqualibus, unica duplo angustiore. *fig. 2.*

STAMINA: FILAMENTA duo, albida, tubo inserta, corollâ longiora; ANTHERÆ cordatæ, cœrulescentes; POLLEN album. *fig. 3.*

PISTILLUM: GERMEN subovatum, obtusum, compressum, viscosum, utrinque sulcatum, basi glandulâ cinctum; STYLUS filiformis, versus apicem paululum incrassatus, violaceus; STIGMA truncatum. *fig. 4.*

PERICARPIUM: *Capsula* cordata, compressa, calyce paulo longior. *fig. 5.*

SEMINA plurima, parva, compressa, pallide fusca. *fig. 6.*

ROOT perennial and fibrous.

STALKS from three to seven inches in length, round, hirsute, stiffish, and creeping.

LEAVES opposite, standing on footstalks, especially the lower ones, somewhat hairy, ferrated, about an inch in length, the lower ones narrowed at the base, the upper ones of an oblong or oval shape, obtuse, somewhat larger than the lower ones and nearly sessile.

FLOWER-BRANCHES single, or growing in pairs, from the side near the top of the stalk, out of the axæ of the leaves, standing on a foot-stalk, upright, naked, downy, the flowers placed on short foot-stalks without any regular order.

FLORAL-LEAF, one placed singly under each flower, linear, obtuse, downy, scarce the length of the calyx, and upright.

CALYX: a PERIANTHIUM of one leaf, deeply divided into four segments, beset with rough hairs which are glandular at the top, the segments oval pointed, and nearly equal. *fig. 1.*

COROLLA monopetalous and wheel-shaped; the *Tube* short and whitish; the *Limb* divided into four segments, of a faint violet colour, painted with more deeply coloured veins, the segments ovate, obtuse and unequal; the three largest nearly equal; the single one twice as narrow as the others. *fig. 2.*

STAMINA: two FILAMENTS, of a whitish colour, inserted into the tube, and longer than the corolla; ANTHERÆ heart shaped, of a blueish colour; POLLEN white. *fig. 3.*

PISTILLUM: GERMEN somewhat ovate, obtuse, flatten'd, clammy, grooved on each side, surrounded at its base by a gland; STYLE thread-shaped, a little thickened towards the top, of a violet colour; STIGMA as if cut off. *fig. 4.*

SEED-VESSEL: a heart shaped flattened *Capsule*, a little longer than the calyx. *fig. 5.*

SEEDS numerous, small, flattened, of a pale brown colour. *fig. 6.*

ON dry mountainous situations, as on Hampstead Heath, and about Charlton Wood, we find this Species of *Veronica* in great abundance, producing flowers from June to August or later.

Its principal distinguishing character is its creeping stalk, which in some situations is more strictly so than in others, I have observed it on some dry heaths, creeping close to the earth, and in other places scarcely procumbent, but it always has this character in a greater or less degree.

In the colour of its blossoms it varies much, they being in some situations almost blue, in others reddish, and in others white; and it is said to have been found with double flowers.

When it meets with a luxuriant soil, its stalks will extend a foot or two, and its leaves equal those of the *Veronica Chamædrys* in size.

Many writers on the *Materia Medica*, have been lavish of their encomiums on its virtues. *RUTTY* thus speaks of it.

“It has a faint smell which is not disagreeable, to the taste it is bitterish and somewhat astringent; the extract of it was also bitter and astringent, but that prepar'd with spirit of wine stronger than that prepared with water, and both somewhat acrid, the bitterness resides most in the resinous part.

“An infusion of it on the addition of *Vitriol of Iron* became of a greenish brown colour, and with *ALSTON* black; blue paper it made red.

“In its external use the cleansing and astringent powers which it possesses, place it among the principal vulneraries, bad ulcers it cleanses, and disposes them to heal; I have myself been witness of its efficacy in this respect, applied to an inveterate cancerous ulcer in the form of a cataplasm, from discharging a thin ichor, it produced a laudable pus.

“It has been found serviceable also in the Itch, and other cutaneous diseases, made into a gargle with the addition of Honey of Roses, it cures the Thrush, and other ulcers of the mouth and throat.

“Taken inwardly it relieves the asthmatic, attenuating and promoting the expectoration of viscid phlegm, and drank as Tea, it also proves serviceable in wounds or ulcers of the Lungs, &c. &c.

These good effects related with so much confidence by the *Dr.* we have translated, and present to our readers, should they not be exaggerated the *Veronica officinalis* has very unmeritedly fall'n into disuse.

5





1 2 3 4 5 6 7 8

Veronica scutellifolia.

VERONICA SERPYLLIFOLIA. LITTLE SMOOTH SPEEDWELL, OR PAUL'S BETONY.

VERONICA *Linnaei Gen. Pl.* DIANDRIA MONOGYNIA.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

VERONICA *serpyllifolia* racemo terminali subspicato, foliis ovatis glabris, crenatis. *Linnaei Syst. Vegetab. p.* 56. *Fl. Suecic. p.* 6.

VERONICA caule recto, foliis ovatis, glabris, crenatis, petiolis ex alis unifloris, brevissimis. *Haller hist. n.* 546.

VERONICA pratensis serpyllifolia. *Bauhin Pin.* 247.

VERONICA pratensis minor. *Parkinson.* 551.

VERONICA minor. *Gerard emac.* 627.

VERONICA foemina quibusdam, aliis Betonica Pauli Serpyllifolia. *I. Bauhin. III.* 285.

VERONICA *Raii Syn. p.* 279. *n.* 3. *Hudson, Fl. Angl. p.* 4. *n.* 4 *Scopoli Fl. Carniol. V.1. p.* 12. *n.* 10
Oeder Fl. Dan. icon. 492.

RADIX perennis, fibrosissima.

CAULES numerosi, ad basin repentes, dein erecti, simplices, palmares, teretes, laeves.

FOLIA opposita, subconnata, subrotundo-ovata, rariter et obsolete serrata, glabra, trinervia.

FLORES albi, venis caeruleis picti, spicati, pedunculati, alterni, BRACTEÆ magnæ, ovatæ.

CALYX: PERIANTHIUM quadripartitum, laciniis ovato-acutis, glabris, *fig.* 1.

COROLLA monopetala, rotata; tubus brevissimus; laciniæ subcordatæ, inferiore angustiore; superiore laciniâ striis aut venis purpureis octo notata, lateralibus venis duabus, inferiore penitus alba, *fig.* 2.

STAMINA: FILAMENTA duo, alba, apice incrassata, *fig.* 5, 6. ANTHERÆ caerulecentes.

PISTILLUM: GERMEN subcompressum, STYLUS albus, apice paululum incrassatus, persistens. STIGMA capitatum, rubens, *fig.* 3.

NECTARIUM ad basin germinis, ut in Veronica Chamædrys.

PERICARPIUM: CAPSULA subcordata, fusca, pro magnitudine plantæ magna, *fig.* 4.

SEMINA plurima, 60 numeravi, e luteo-fusca, sub-ovata, *fig.* 8.

ROOT perennial, and very fibrous.

STALKS numerous, creeping at bottom, then growing upright, simple, three or four inches high, round and smooth.

LEAVES opposite, nearly uniting at bottom, of a roundish-oval form, here and there slightly serrated, smooth and trinervous.

FLOWERS white, coloured with blue veins or stripes, growing in spikes on foot-stalks alternately. FLORAL LEAVES large and oval.

CALYX: A PERIANTHIUM divided into four parts, the Segments of an oval pointed shape, and smooth, *fig.* 1.

COROLLA monopetalous, wheel-shaped, the tube very short, the segments somewhat heart-shaped, the lower one narrowest; the upper segment marked with eight purple veins or stripes, the side ones with two, and the lower one entirely white *fig.* 2.

STAMINA: two FILAMENTS, white and thickish towards the extremity; the ANTHERÆ blueish *fig.* 5, 6.

PISTILLUM: the GERMEN flattish, the STYLE white, a little thicker towards the extremity, and continuing. STIGMA roundish, and of a redish colour, *fig.* 3.

NECTARY at the bottom of the Germen as in the Veronica Chamædrys.

SEED-VESSEL: a CAPSULE somewhat heart-shaped, of a brown colour, and large in proportion to the plant, *fig.* 4.

SEEDS numerous, of a yellowish brown colour, and somewhat oval shape, *fig.* 8. We counted 60 in one capsule.

No particular virtues are attributed to this little plant by Writers.

It is one of the least of the Veronics, and occurs frequently in Meadows and Fields, and sometimes in Gardens, flowering in the Spring and Autumnal Months.

There is a great deal of delicacy in its blossoms, but they are too minute to make its beauty conspicuous enough for the Garden.

Its small, round, smooth and shining leaves readily distinguish it from the other Speedwells.







Veronica Beccabunga

VERONICA BECABUNGA. BROOKLIME.

VERONICA *Linnaei* Gen. Pl. DIANDRIA MONOGYNIA.

Cor. limbo 5-partito, lacinia infima angustiore.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

VERONICA *Becabunga* racemis lateralibus, foliis ovatis planis, caule repente. *Linn. Syst. Vegetab.* p. 57.

VERONICA foliis ovatis, ferratis, glabris, ex alis racemosa. *Haller hist.* n. 534.

VERONICA *Becabunga*. *Scopoli Fl. Carniol.* n. 11.

ANAGALLIS aquatica minor folio subrotundo. *Baubin pin.* 252.

ANAGALLIS aquatica vulgaris, five Becabunga. *Parkinson* 1236.

ANAGALLIS five Becabunga. *Gerard emac.* 620.

VERONICA aquatica rotundifolia, Becabunga dicta minor. *Raii Syn.* 280, Common Brooklime.

Hudson Fl. Angl. p. 4. *Oeder Fl. Dan. Icon.* 511.

RADIX perennis, fibrosa, fibris plurimis, capillaribus, albis.	ROOT perennial, fibrous, the fibres numerous, very small and white.
CAULES numerosi, repentes, teretes, læves, crassi, succulenti, rubentes, ramosi.	STALKS numerous, creeping, round, smooth, thick, succulent, of a reddish colour, and branched.
FOLIA ovato-obtusa, utrinque glabra, subcarnosa, opposita, dentata, denticulis glandulâ terminatis.	LEAVES oval and obtuse, smooth on both sides, somewhat fleshy, opposite, indented at the edges, each little tooth terminated by a gland.
FLORES pulchre cœrulei, oculo albo, racematim dispositi, racemis ex utraque alâ prodeuntibus.	FLOWERS of a beautiful blue colour, with a white eye, growing in racemi or branches which proceed from the bosoms of the leaves on each side of the stalk.
CALYX: PERIANTHIUM quadripartitum, laciniis ovato-acutis, lævibus, corolla brevioribus, fig. 2.	CALYX: a PERIANTHIUM divided into four segments, which are of an oval pointed shape, smooth, and shorter than the corolla, fig. 2.
COROLLA monopetala, subrotata, cœrulea, venis faturationibus ad basin striatis, laciniis subovatis, infima angustiore, fig. 3.	COROLLA monopetalous, somewhat wheel-shaped, of a blue colour, striped at bottom with deeper veins of the same colour; the segments nearly oval; the lowermost narrower than the others, fig. 3.
STAMINA: FILAMENTA duo, alba, medio crassiora: ANTHERÆ cœrulescentes: POLLEN album, fig. 4.	STAMINA: two white FILAMENTS, thickest in the middle: ANTHERÆ blueish: the POLLEN white, fig. 4.
PISTILLUM: GERMEN subrotundum, didymum: STYLUS apice incrassatus, purpureus: STIGMA capitatum, fig. 5.	PISTILLUM: GERMEN roundish, double: STYLE thickest at top and purple: STIGMA forming a little head, fig. 5.
PERICARPIUM: CAPSULA subrotunda, compressa, bilocularis, quadrivalvis, fig. 6.	SEED-VESEL: a roundish, flattened CAPSULE of two cavities and four valves, fig. 6.
SEMINA plurima, ovata, fusca, fig. 7, 8.	SEEDS several, oval and brown, fig. 7, 8.

BROOKLIME grows very commonly in brooks and muddy waters, whence its name, and flowers in June and July. It is an officinal plant, and made use of in the scorbutic juices of the London Dispensatory, which seems to be the only purpose to which it is applied.

3





Veronica Anagallis.

Engraving by M. G. S.

VERONICA ANAGALLIS. WATER SPEEDWELL.

VERONICA *Lin. Gen. Pl.* DIANDRIA MONOGYNIA.

Cor. Limbo 4-partito, laciniâ infima angustiore. *Capsula* bilocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

VERONICA *Anagallis* racemis lateralibus, foliis lanceolatis serratis, caule erecto. *Lin. Syst. Vegetab.* p. 56. *Sp. Pl.* p. 16. *Fl. Suec.* n. 13.

VERONICA foliis lanceolatis serratis, glabris, ex alis racemosa. *Haller hist.* n. 553.

VERONICA *Anagallis Scopoli Fl. Carn.* n. 12.

ANAGALLIS aquatica minor folio oblongo. *Bauh. Pin.* 252.

ANAGALLIS aquatica folio oblongo crenato. *Park.* 1237.

ANAGALLIS aquatica major. *Ger. emac.* 620.

VERONICA aquatica longifolia media. *Raii Syn.* 280. The Middle Long-leav'd Water Speedwell or Brooklime. *Hudson, Fl. Angl. ed. 2.* p. 5. *Lightfoot Fl. Scot.* p. 73.

RADIX annua, fibrosa.

ROOT annual, and fibrous.

CAULIS erectus, pedalis ad bipedalem, teres, subangulosus, glaber, ad basin usque ramosus, inferne purpurascens.

STALK upright, from one to two feet high, round, slightly angular, smooth, branched quite to the bottom, below purplish.

FOLIA opposita, sessilia, lanceolata, sæpe ovato-lanceolata, serrata, glabra, venosa, pallide viridia.

LEAVES opposite, sessile, lanceolate, often ovato-lanceolate, serrated, smooth, veiny, of a pale green colour.

FLORES racemosi, numerosi, triginta quadraginta aut etiam plures in singulo racemo.

FLOWERS growing in racemi, numerous, from thirty to forty, or even more on one racemus.

RACEMI laterales, oppositi, longissimi, suberecti.

RACEMI lateral, opposite, very long, nearly upright.

PEDUNCULI ad lentem subviscidi.

FLOWER-STALKS somewhat viscid when magnified.

BRACTEÆ lanceolatæ.

FLORAL-LEAVES lanceolate.

CALYX: PERIANTHIUM quadripartitum, persistens, laciniis ovato-lanceolatis, acutis, lævibus, trinerviis, subæqualibus, fig. 1.

CALYX: a PERIANTHIUM deeply divided into four segments, and permanent, the segments ovato-lanceolate, pointed, smooth, three-ribb'd, and nearly equal, fig. 1.

COROLLA monopetala, rotata, pallide purpurea, laciniâ superiore et duabus lateralibus venis furationibus striata, fig. 2.

COROLLA monopetalous, and wheel-shaped, of a pale purple colour, the uppermost segment and the two lateral ones streaked with deeper veins of the same colour, fig. 2.

STAMINA: FILAMENTA duo, purpurascens, medio crassiora; ANTHERÆ concolores; POLLEN album, fig. 3.

STAMINA: two FILAMENTS of a purplish colour, thickest in the middle; ANTHERÆ of the same colour; POLLEN white, fig. 3.

PISTILLUM: GERMEN viride; STYLUS declinatus, purpurascens, superne crassior; STIGMA obtusum, fig. 4.

PISTILLUM: GERMEN green; STYLE depending, purplish, thickened above; STIGMA blunt, fig. 4.

PERICARPIUM: CAPSULA bilocularis, subinde trilocularis, subrotunda, vix emarginata, polysperma, fig. 5.

SEED-VESSEL: a CAPSULE of two cavities, sometimes three, roundish, scarcely emarginate, containing many seeds, fig. 5.

SEMINA plurima, subrotunda, minutissima, fig. 6.

SEEDS numerous, roundish, and very minute, fig. 6.

The *Veronica Anagallis* is a much more general plant than the *Scutellata*, being found in almost every watery ditch, but especially in those which communicate with the Thames, on the edges of which it is also extremely common.

It is apt to vary considerably according to situation; when it grows in ditches that have a considerable depth of water, it becomes much taller, the stalk is proportionably thicker, and the leaves are apt to be curled; when it grows out of the water, the plant is smaller, the leaves are broader, flatter, and of a paler hue; in all situations its racemi are remarkably long and full of flowers, and its seeds are uncommonly small and numerous.

It blossoms from June to September.

The seed-vessels are sometimes found very much enlarged; on cutting them open a small larva was found in some, and a pupa in others, which, on being kept a proper time, produced a small Curculio or Weevil.

5





J. Sowerby del. et sculp.

Veronica scutellata.

VERONICA SCUTELLATA. BOG SPEEDWELL.

VERONICA *Lin. Gen. Pl.* DIANDRIA MONOGYNIA.

Cor. Limbo 4-partito, laciniâ infima angustiore. *Capsula* bilocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

VERONICA *scutellata* racemis lateralibus alternis: pedicellis pendulis, foliis linearibus integerrimis. *Lin. Syst. Vegetab.* p. 57. *Sp. Pl.* p. 16. *Fl. Suec.* n. 17.

VERONICA foliis lanceolatis, ferratis, glabris, ex alis racemosa. *Haller Hist.* 533.

VERONICA *scutellata.* *Scopoli Fl. Carn.* n. 22.

ANAGALLIS aquatica angustifolia scutellata. *Bauh. Pin.* 252.

VERONICA aquatica angustifolia minor. Narrow-leav'd Water Speedwell, or Brooklime. *Raii Syn.* p. 280. *Hudson. Fl. Angl. ed. 2.* p. 5. *Lightfoot Fl. Scot.* p. 74.

RADIX perennis, fibrosa, fusca.

CAULIS: paulo supra terram furculi plerumque steriles erumpunt, qui humi repunt, caulis florifer suberectus, debilis, teres, vix angulosus, glaber, ramosus, semipedalis ad pedalem, basi etiam aliquando repens.

FOLIA opposita, sessilia, lineari-lanceolata, glabra, minutim et rariter dentata.

FLORES albi, seu pallide carnei, racemosi.

RACEMI laterales, plerumque alterni, laxi, flexuosi, multiflori.

BRACTEÆ minutæ, lanceolatæ.

PEDUNCULI capillares, alterni, demum penduli.

CALYX: PERIANTHIUM parvum, quadripartitum, laciniis ovato-lanceolatis, subæqualibus, *fig. 1.*

COROLLA monopetala, rotata, plerumque alba, laciniâ superiore venis purpureis picta, *fig. 2.*

STAMINA: FILAMENTA duo, medio incrassata, alba; ANTHERÆ albæ, *fig. 3.*

PISTILLUM: GERMEN viride; STYLUS declinatus, albus; STIGMA obtusum, flavescens, *fig. 4.*

PERICARPIUM: CAPSULA compressa, suborbiculata, emarginata, bilocularis, polysperma, ad 16. *fig. 5.*

SEMINA orbiculata, plana, flava, *fig. 6.*

ROOT perennial, fibrous, of a brown colour.

STALK: just above the ground young shoots spring forth, which are for the most part destitute of flowers and creep on the earth, the flowering stalk is nearly upright, weak, round, scarce perceptibly angular, smooth, branched, from six inches to a foot in height, sometimes also creeping at bottom.

LEAVES opposite, sessile, betwixt linear and lanceolate, smooth, finely tooth'd, teeth distant.

FLOWERS white, or of a pale flesh colour, growing in racemi.

RACEMI lateral, for the most part alternate, loose, crooked, and bearing many flowers.

FLORAL-LEAVES minute, and lanceolate.

FLOWER-STALKS capillary, alternate, finally pendulous.

CALYX: a PERIANTHIUM small, deeply divided into four segments, which are ovato-lanceolate and nearly equal, *fig. 1.*

COROLLA monopetalous, wheel-shaped, for the most part white, the upper segment streaked with purple veins, *fig. 2.*

STAMINA: two FILAMENTS, thickest in the middle, white; ANTHERÆ white, *fig. 3.*

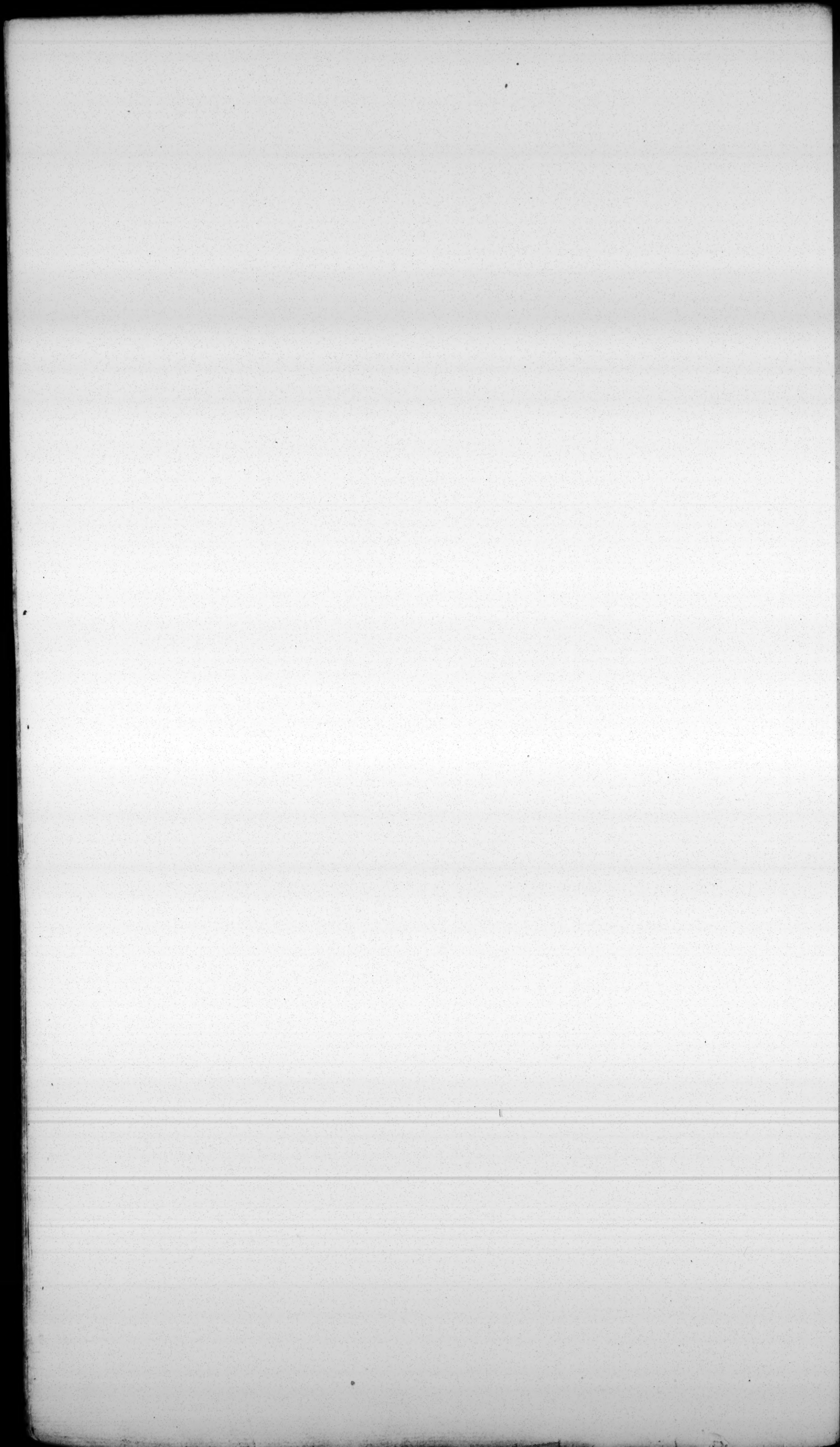
PISTILLUM: GERMEN green; STYLE depending, white; STIGMA blunt, yellowish, *fig. 4.*

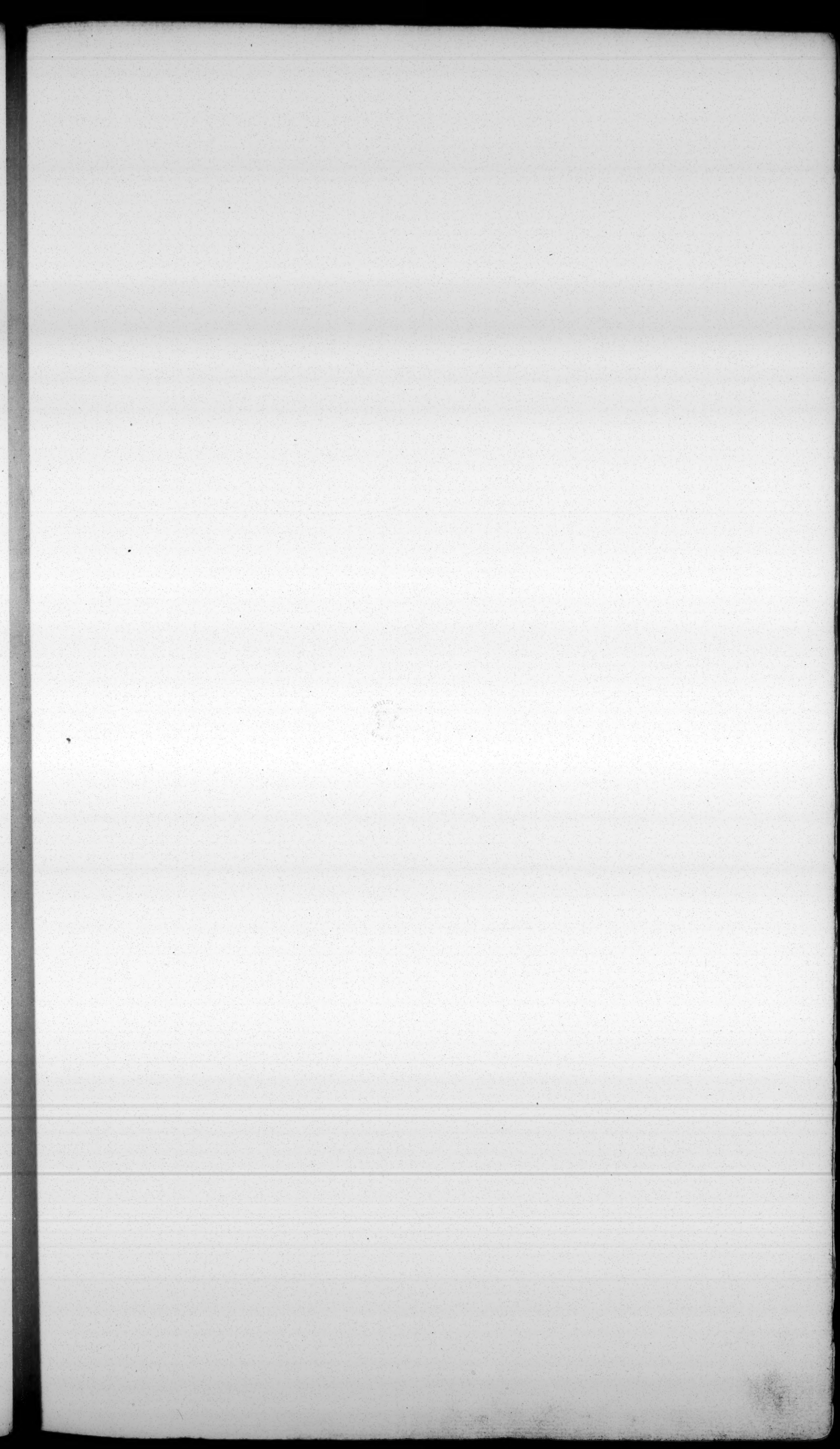
SEED-VESSEL a CAPSULE nearly round, flattened, emarginate, of two cavities, containing numerous seeds, to 16. *fig. 5.*

SEEDS round, flat, and yellow, *fig. 6.*

This species of Veronica is distinguished from the others by several characters, such as, its place of growth, which is peculiar, it being seldom found but on bogs, or the edges of ponds, especially such as we find on heaths and moors, hence we have called it *Bog Speedwell*; the narrowness as well as smoothness of its leaves also strikingly distinguishes it; LINNÆUS's term of *integerrimis*, as applied to them, is certainly too strong, for they are always toothed, though faintly, and in a singular manner; and if these characters were not sufficient, the loose straggling manner in which the flower stalks grow, would at once point out the *Scutellata* as a distinct species.

It is common in the situations above described on most of our heaths, and flowers from June to September.







VERONICA CHAMÆDRYS. WILD GERMANDER.

VERONICA *Linnaei Gen. Pl.* DIANDRIA MONOGYNIA.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

VERONICA *Chamædrys* racemis lateralibus, foliis ovatis rugosis dentatis sessilibus, caule bifariam piloso. *Lin. Syst. Vegetab. p.* 57. *Fl. Suecic. p.* 6.

VERONICA foliis cordatis subrotundis, hirsutis, nervosis, ex alis racemosa. *Haller. hist. n.* 536.

CHAMÆDRYS spuria minor rotundifolia. *Baubin. pin.* 249.

CHAMÆDRYS spuria sylvestris. *Parkinson,* 107.

CHAMÆDRYS sylvestris. *Gerard. emac.* 657. *Raii Syn.* 281. Wild Germander, *Hudson. Fl. Angl. p.* 5. *Scopoli. Fl. Carniol. p.* 15. (a) *Oeder Fl. Dan. icon.* 448.

RADIX perennis, repens, fibrosa.

CAULES numerosi, decumbentes, teretes, duri, *bifariam dense hirsuti*, ramosi.

FOLIA cordato-ovata, opposita, nunc sessilia nunc petiolis brevibus infidentia, ferrata, venosa, hirsutula.

FLORES numerosi, ad 20, cærulei, petiolati: *Petiol. BRACTÆA lanceolata suffulti*; RACEMI longi, nunc oppositi nunc solitarii.

CALYX PERIANTHIUM quadripartitum, persistens, foliolis lanceolatis, hirsutulis, *fig.* 1.

COROLLA monopetala, rotata, tubus brevissimus internè ad inferiorem partem villosus, LIMBO quadripartito, plano, laciniis subcordatis ad basin venis saturationibus striatis, inferiore angustiore, *fig.* 2.

STAMINA: FILAMENTA duo apice incrassata, adscendentia, *fig.* 3. ANTHERÆ sagittata, *fig.* 4. POLLEN album, *fig.* 6.

PISTILLUM: GERMEN compressum glandula nectarifera cinctum: STYLUS declinatus, cærulescens, STIGMA obtusum, purpureum, *fig.* 5.

PERICARPIUM: CAPSULA cordata, *subcompressa*, pallide fusca, *calyce paulo brevior*, ad marginem hirsutulum, *fig.* 7.

SEMINA: plura, compressa, flavescentia, *fig.* 8.

ROOT perennial, creeping, and fibrous.

STALKS numerous, spreading, round, hard, *hairy on each side*, hairs very thick together, branched.

LEAVES of an heart shaped oval form, opposite, generally sessile, sometimes standing on short foot-stalks, serrated, veiny, and slightly hirsute.

FLOWERS numerous, to 20, of a bright blue colour, forming long RACEMI (which are sometimes opposite, sometimes single), standing on *foot-stalks*, each of which is supported by a long-pointed BRACTEA.

CALYX: a PERIANTHIUM divided into four segments, and continuing, the segments lanceolate and slightly hairy, *fig.* 1.

COROLLA monopetalous and wheel shaped, the TUBE very short, internally villous on the lowermost side, the LIMB flat, and divided into four segments, the segments somewhat heart-shaped, striated at bottom with veins of a purple colour, the lowermost segment narrower than the rest, *fig.* 2.

STAMINA: two FILAMENTS, thickest at top, rising upward, *fig.* 3. the ANTHERÆ arrow-shaped, *fig.* 4. the POLLEN white.

PISTILLUM: the GERMEN flattish, surrounded at bottom by a nectariferous gland, *fig.* 6. the STYLE hanging downwards, blueish; the STIGMA blunt, and purple, *fig.* 5.

SEED-VESSEL: a CAPSULE, heart-shaped, *flattish*, of a light brown colour, *a little shorter than the calyx*, and slightly hairy at the edge, *fig.* 7.

SEEDS several, flat, of a yellowish brown colour, *fig.* 8.

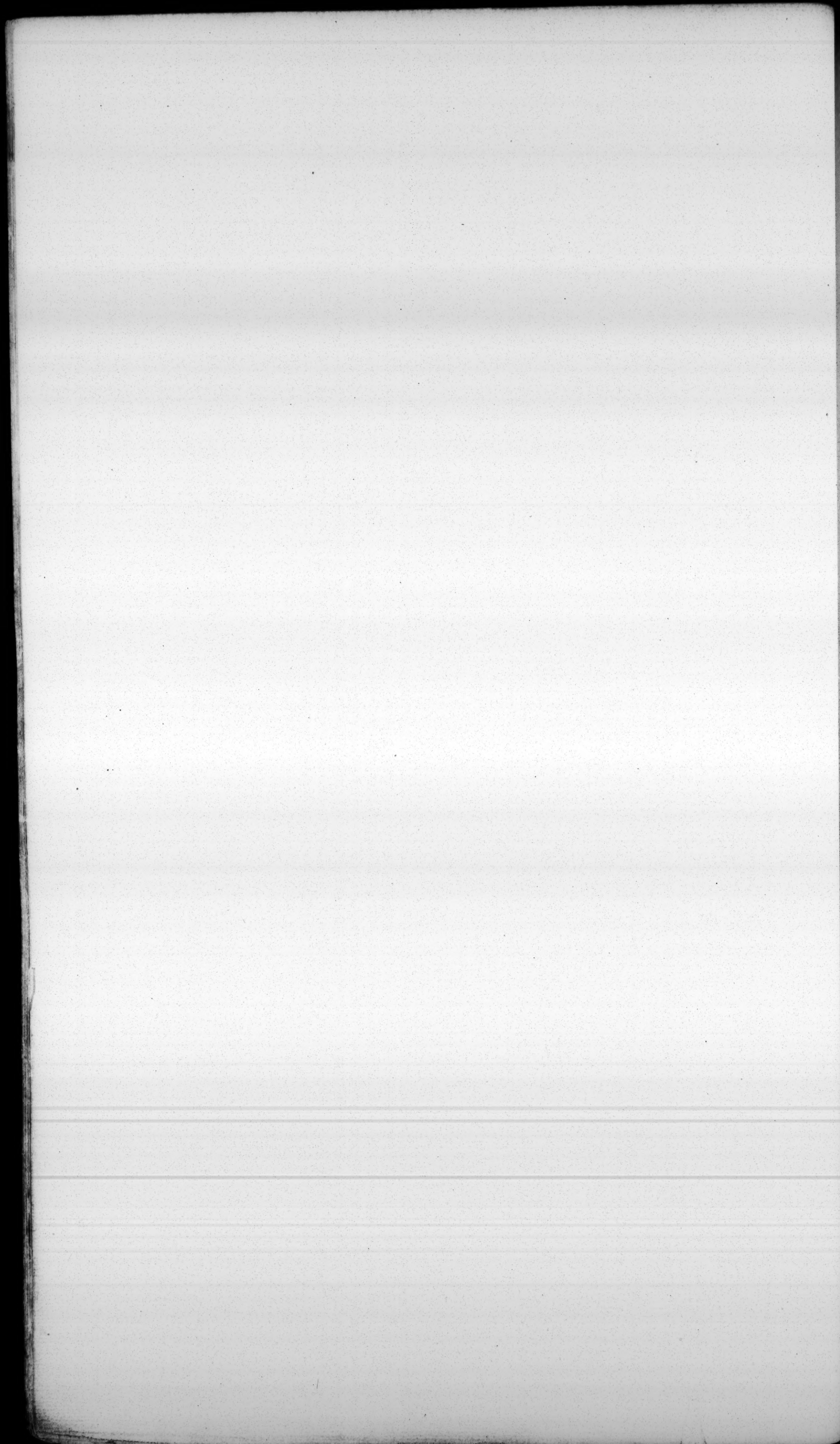
The flowers of this Veronica are the largest and most specious of all the Plants of that Genus which grow wild in this Kingdom; many plants with less beauty are cultivated in our Gardens with the greatest care.

The leaves have been recommended by some writers as a substitute for Tea.

It bears a considerable resemblance to the *Veronica montana*, but differs essentially from that plant in the size of its Seed-vessels and the great number of flowers which it bears on its Racemi. See *Jacquin. Flor. Austriac. Vol.* 2.

When growing wild the leaves are usually sessile or placed on very short foot-stalks, when cultivated they become larger and the foot-stalks moderately long; a kind of monstrosity, which LINNÆUS has likewise observed, is very frequent on the leaves at the extremity of the stalk; which are collected into a very hairy white knob, on opening one of these I found two or three Insects in their Pupa or Chrysalis state, which most probably would have produced some species of Fly. This appearance is very common at the latter end of Summer.

This is an early blowing plant, and grows very common on dry banks, under hedges, and in orchards; it flowers in May and June.







Veronica montana.

VERONICA MONTANA. MOUNTAIN SPEEDWELL.

VERONICA *Lin. Gen. Pl.* DIANDRIA MONOGYNIA.

Cor. Limbo 4 partito, laciniâ infimâ angustiore. *Capsula* bilocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

VERONICA *montana* racemis lateralibus paucifloris, calycibus hirsutis, foliis ovatis rugosis crenatis petiolatis, caule debili. *Lin. Syst. Vegetab. Sp. Pl.* p. 56.

VERONICA caule procumbente, foliis hirsutis, cordatis, retusis, racemis paucifloris. *Haller. hist.* n. 539.

CHAMÆDRYI spuria affinis rotundifolia scutellata. *Bauh. pin.* 249.

ALYSSON Diofcoridis montanum. *Col. Ecph.* 1. 286.

VERONICA Chamædryoides, foliis pediculis oblongis infidentibus. *Raii Syn.* p. 281. Wild Germander with Leaves standing on long Foot-stalks.

Lightfoot Fl. Scot. p. 6.

Hudjon. Fl. Angl. ed. 2. p. 74.

RADIX perennis, fibrosa, fibrillis prælongis, fuscis.

CAULES procumbentes, versus basin sæpe radican-
teretes, pilis mollibus undique hirsuti, pur-
purascentes.

FOLIA opposita, petiolata, ovato-cordata, obtusiuscula,
inæqualiter ferrata, hirsutula, nitidula, sub-
tus purpurascentia, parum concava et bullata.

PETIOLI longitudine fere foliorem, hirsutissimi.

RACEMI laterales, alterni, subinde oppositi, tenues,
hirsuti, pauciflori.

PEDUNCULI alterni, hirsuti, bractæâ lanceolatâ suf-
fulti.

CALYX: PERIANTHIUM tetraphyllum, foliolis subæ-
qualibus, ovatis, basi angustatis, hirsutis,
pilis ad lentem globuligeris. *fig. 1.*

COROLLA monopetala, rotata, ex purpureo-cærulef-
cens, supremâ laciniâ saturatius coloratâ,
una cum lateralibus venis cæruleis pictâ, in-
fimâ minore immaculata, *tubus* brevissimus,
albus. *fig. 2.*

STAMINA: FILAMENTA duo, tubo corollæ inserta,
basi albida, curvata, medio crassiora; ANTHER-
Æ cæruleæ; POLLEN album. *fig. 3.*

PISTILLUM: GERMEN obovatum, hirsutum; STY-
LUS superne sensim incrassatus; STIGMA
capitatum, album. *fig. 4. 5.*

PERICARPIUM: CAPSULA magna, orbiculata, emar-
ginata, compressa. *fig. 6.*

SEMINA pauca, ovata, plana, flavescentia. *fig. 7.*

ROOT perennial and fibrous, the fibres very long and
brown.

STALKS procumbent, often taking root towards the
base, round, covered with soft hairs, and
purplish.

LEAVES opposite, standing on footstalks, ovato-cor-
date, a little blunt, unequally serrated,
slightly hairy, somewhat shining, purplish
underneath, a little hollow and cockled.

LEAF-STALKS almost the length of the leaves, and
very hairy.

FLOWER BRANCHES lateral, alternate, sometimes
opposite, slender, hairy, supporting few
flowers.

FLOWER-STALKS alternate, hairy, supported by
a narrow floral-leaf.

CALYX: a PERIANTHIUM composed of four leaves,
which are nearly equal, ovate, narrowed at
the base, hairy, the hairs globular at the ex-
tremity when magnified. *fig. 1.*

COROLLA monopetalous, wheel-shaped, of a blueish
purple colour, the uppermost segment more
deeply coloured than the others, and together
with the side ones streakt with blue veins,
the lowermost least without any veins, the
tube very short and white. *fig. 2.*

STAMINA: two FILAMENTS, inserted into the tube
of the corolla, whitish at the base, bent,
thickest in the middle; ANTHERÆ blue;
POLLEN white. *fig. 3.*

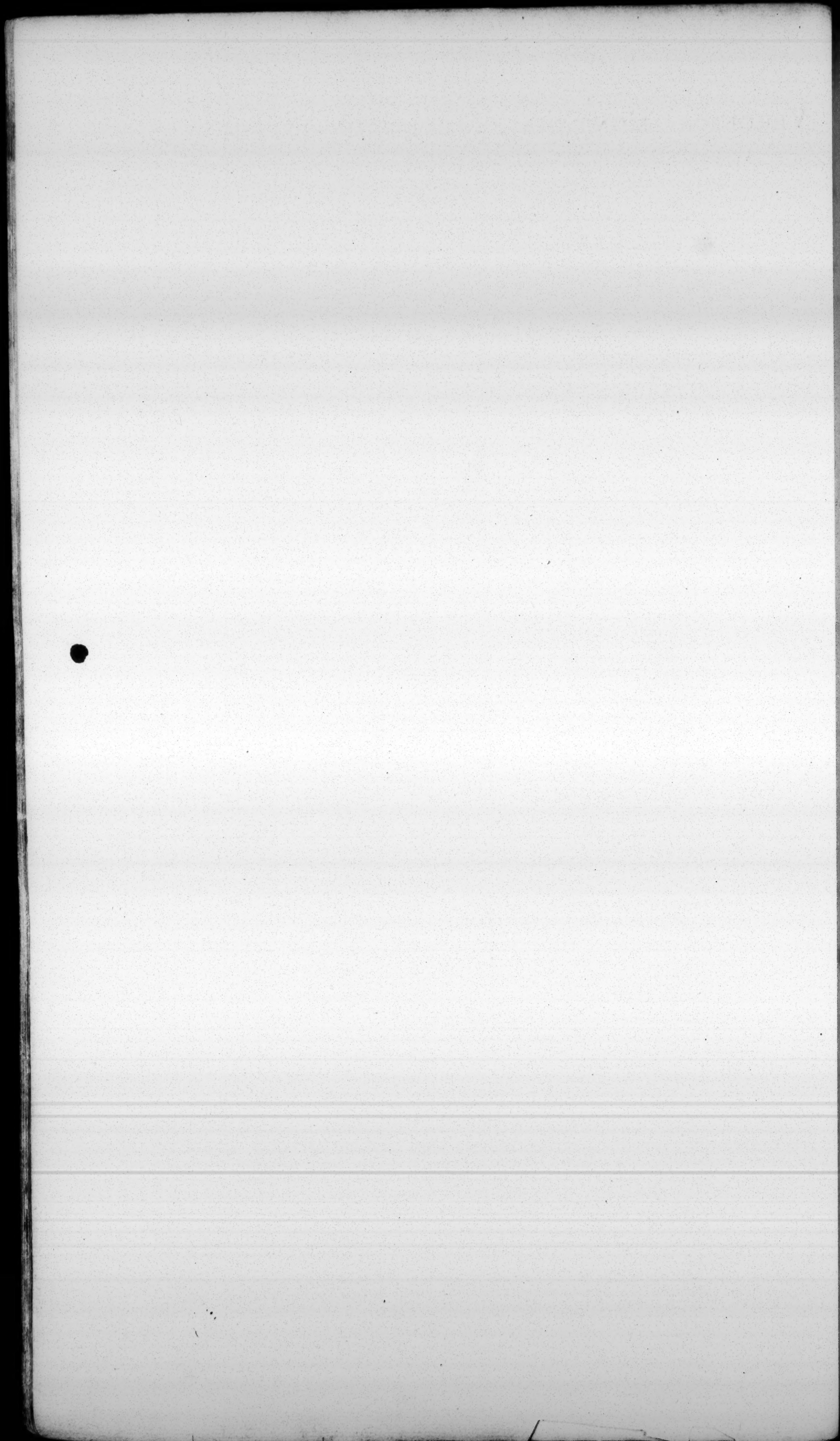
PISTILLUM: GERMEN inversely ovate, hairy; STYLE
towards the top gradually thickened; STIG-
MA forming a small white head. *fig. 4. 5.*

SEED-VESSEL: a large, round, flat CAPSULE nicked
at top. *fig. 6.*

SEEDS few, ovate, flat and yellowish. *fig. 7.*

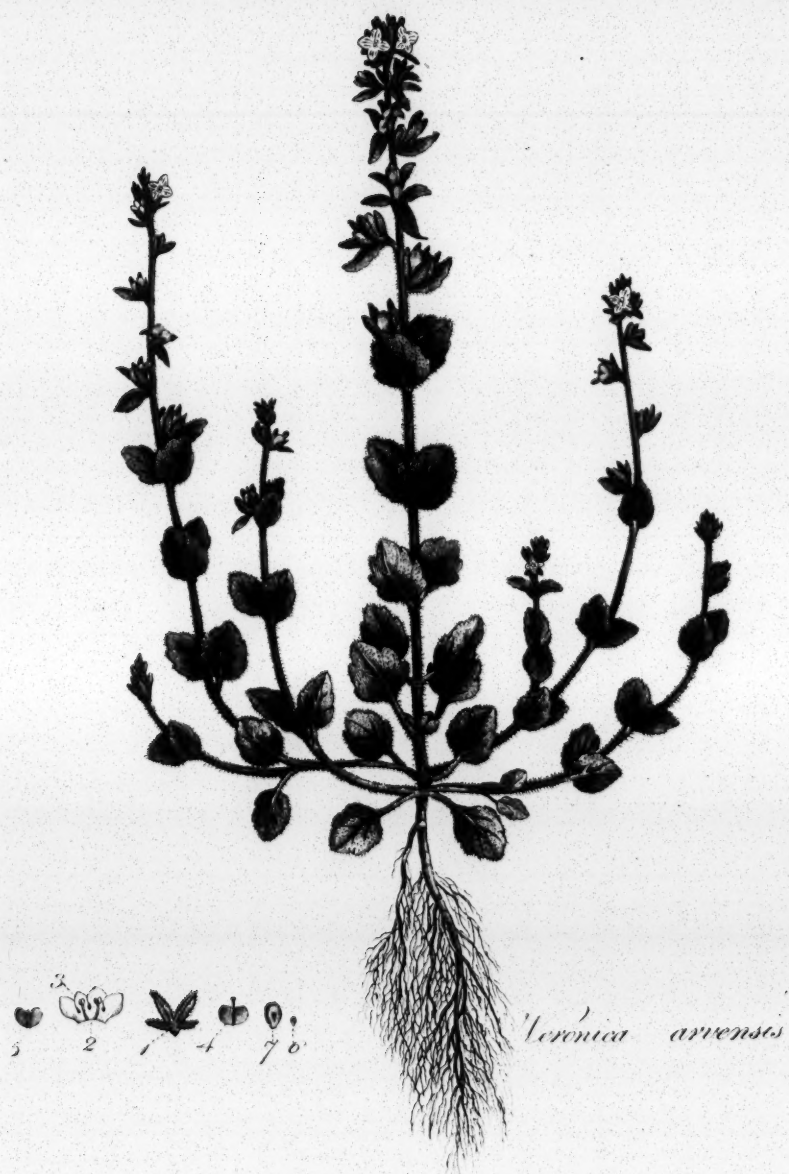
The *Veronica montana* is very similar in its general appearance to the *Chamædrys*, and of which, by some au-
thors, it has been considered as only a variety; but this has arisen from a very superficial enquiry, as no two
plants can be more distinct; LINNÆUS might indeed have selected a specific character, which would effectually
have removed every doubt of this kind, viz. the shape and size of the seed-vessels, these in the *montana* are at
least thrice as large as those of the *chamædrys*, they are also much rounder and flatter, while the flowers on the
contrary are not more than half as large, and much less showy; when we have not these characters to assist us,
the stalk and leaves will in general be sufficient, in the *chamædrys* the hairs grow on two sides of the stalk
only, in the *montana* they grow all around it, in the *chamædrys* the leaves are generally sessile, in the *montana*
they stand on footstalks.

These two plants differ also in their places of growth, the *montana*, so far as I have observed it, preferring
moist and shady situations, whence the term *montana* seems ill-applied to it; near London, it is found plenti-
fully in Charlton Wood, behind the Church, and flowers in June and July.





Nº133



VERONICA ARVENSIS. WALL SPEEDWELL.

VERONICA *Linnei Gen. Pl.* DIANDRIA MONOGYNIA.

Cor. limbo 4-partito, laciniâ infimâ angustiore. *Capsula* bilocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

VERONICA *arvensis* floribus solitariis, foliis cordatis incis pedunculo longioribus. *Lin. Syst. Vegetab.* p. 57. *Sp. Pl.* p. 18.

VERONICA caule erecto, foliis ovatis, subhirsutis, dentatis; petiolis brevissimis. *Haller. bist. helv. n.* 548.

VERONICA *arvensis.* *Scopoli. Flor. Carniol.* p. 18.

ALSINE veronicæ foliis, flosculis cauliculis adhærentibus. *Baubin. Pin.* 250.

ALSINE foliis Veronicæ. *Gerard. emac.* 613.

ALSINE foliis subrotundis Veronicæ. *Parkinson.* 762.

VERONICA flosculis singularibus cauliculis adhærentibus. *Raii Syn.* p. 279, Speedwell Chickweed.

Oeder Fl. Dan. t. 515.

Hudson Fl. Angl. 6. ed. 2. 6.

Lightfoot. Fl. Scot. p. 75.

RADIX annua, fibrosa.

CAULIS palmaris, aut dodrantalis, erectus, plerumque ramosus, subinde simplex, (rami alternatim oppositi, ascendentes,) teres, purpurascens, undique hirsutus.

FOLIA inferiora petiolata, hirsuta, subcordata, inferne sæpe purpurea, obtusa, planiuscula, incisa, quinquenervia, superiora sessilia, subtortuosa.

FLORES pedunculis brevissimis insidentes, spicati, bractæâ lanceolatâ suffulti.

CALYX: PERIANTHIUM quadripartitum, laciniis ovato-lanceolatis, hirsutulis, hirsutie glandulosa, duobus inferioribus duplo fere majoribus et longioribus, *fig.* 1.

COROLLA monopetala, subrotata, cœrulea, levissimo tactu decidua, tubus brevissimus, albus, limbus quadripartitus, laciniis ovatis, infimâ angustiore, *fig.* 2.

STAMINA: FILAMENTA duo, alba, medio crassiora, corollâ dimidio breviora: ANTHERÆ subcordatæ, flavescentes, *fig.* 3.

PISTILLUM: GERMEN obcordatum, compressum, viscosum, basi glandulâ cincto: STYLUS brevissimus, albus, rectus: STIGMA crassum subtruncatum, *fig.* 4.

PERICARPIUM: CAPSULA obcordata, compressa, pallide fusca, *fig.* 5, continens.

SEMINA circiter 14 ovata, compressa, medio depressa, *fig.* 6, 7.

AS the *Veronica agrestis* grows chiefly in gardens and cultivated ground, so this species, which is nearly allied to it, is most commonly found on walls, also in fallow fields, and on the borders of dry pastures.

It flowers in April, and the seeds ripen in May.

The old botanists, inattentive to the parts of fructification, distinguished this and some other species of Veronica, by the general name of *Alfine*.

Students are apt, as we have before observed, to confound it with the *agrestis*, from which it differs in many respects: the stalk in particular is upright; the flowers are nearly sessile; the seed-vessels are much smaller, and when ripe form a spike.

It varies in size from one to six or eight inches: and on walls, the bottom leaves are frequently observed to be purple.

ROOT annual and fibrous.

STALK upright, from three to nine inches in height, generally branched, now and then simple, (the branches alternately opposite and ascending,) round, purplish, and hirsute on every side.

LEAVES on the bottom of the stalk standing on foot-stalks, hirsute, somewhat heart-shaped, often purple on the under side, obtuse, flattish, notched on the edges, having five ribs, the upper ones sessile, and somewhat twisted.

FLOWERS sitting on very short foot-stalks, growing in a spike, supported by a lanceolate floral-leaf

CALYX: a PERIANTHIUM deeply divided into four segments, which are oval, lanceolate, and hairy; (the hairs terminated with glands;) the two lowermost almost twice as large and long as the others, *fig.* 1.

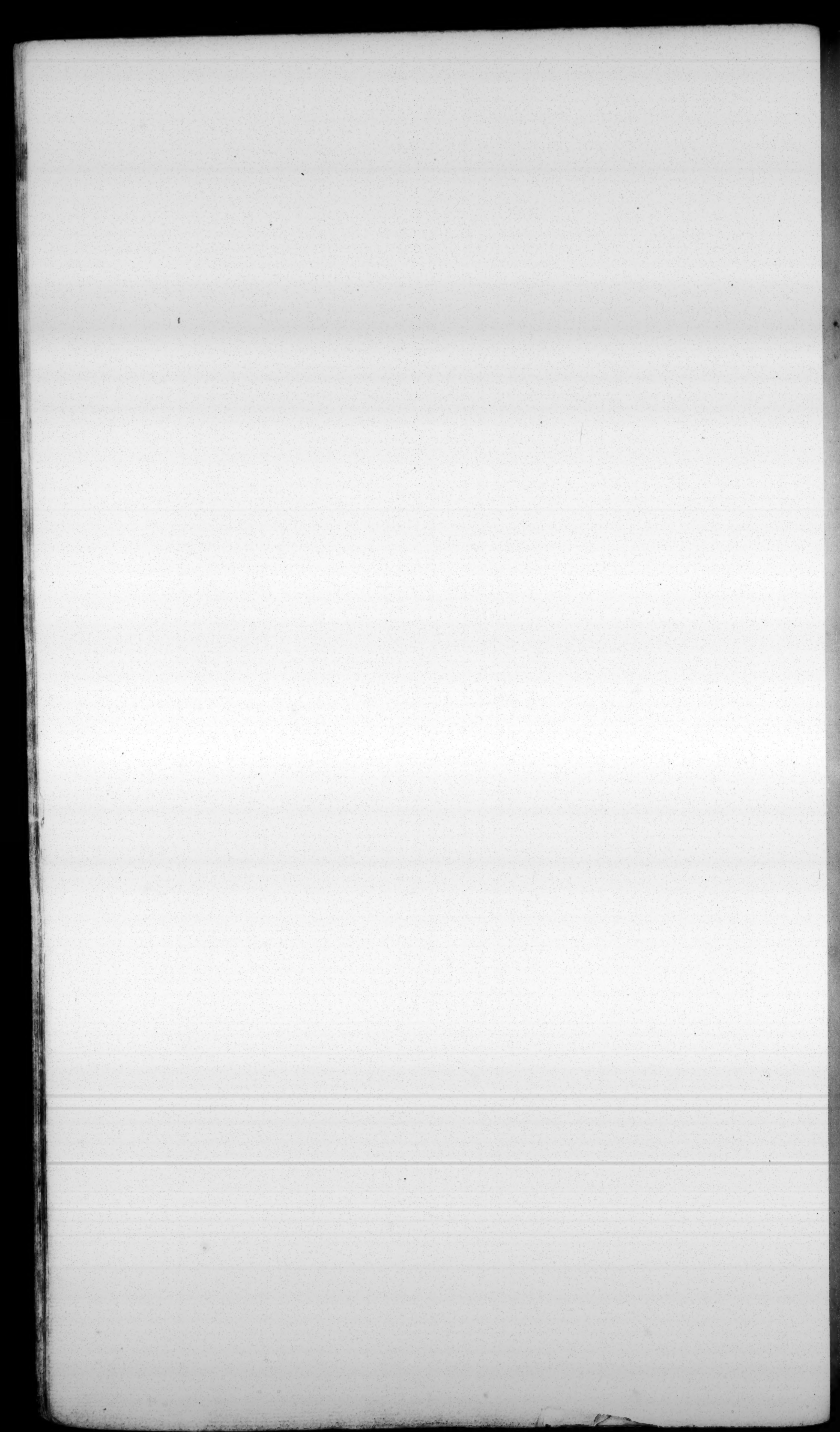
COROLLA monopetalous, and somewhat wheel-shaped, of a blue colour, falling off on the least touch; the tube very short and white; the limb deeply divided into four segments, which are oval, the lower one narrowest, *fig.* 2.

STAMINA: two white FILAMENTS thickest in the middle, half the length of the corolla: ANTHERÆ somewhat heart-shaped, and yellowish, *fig.* 3.

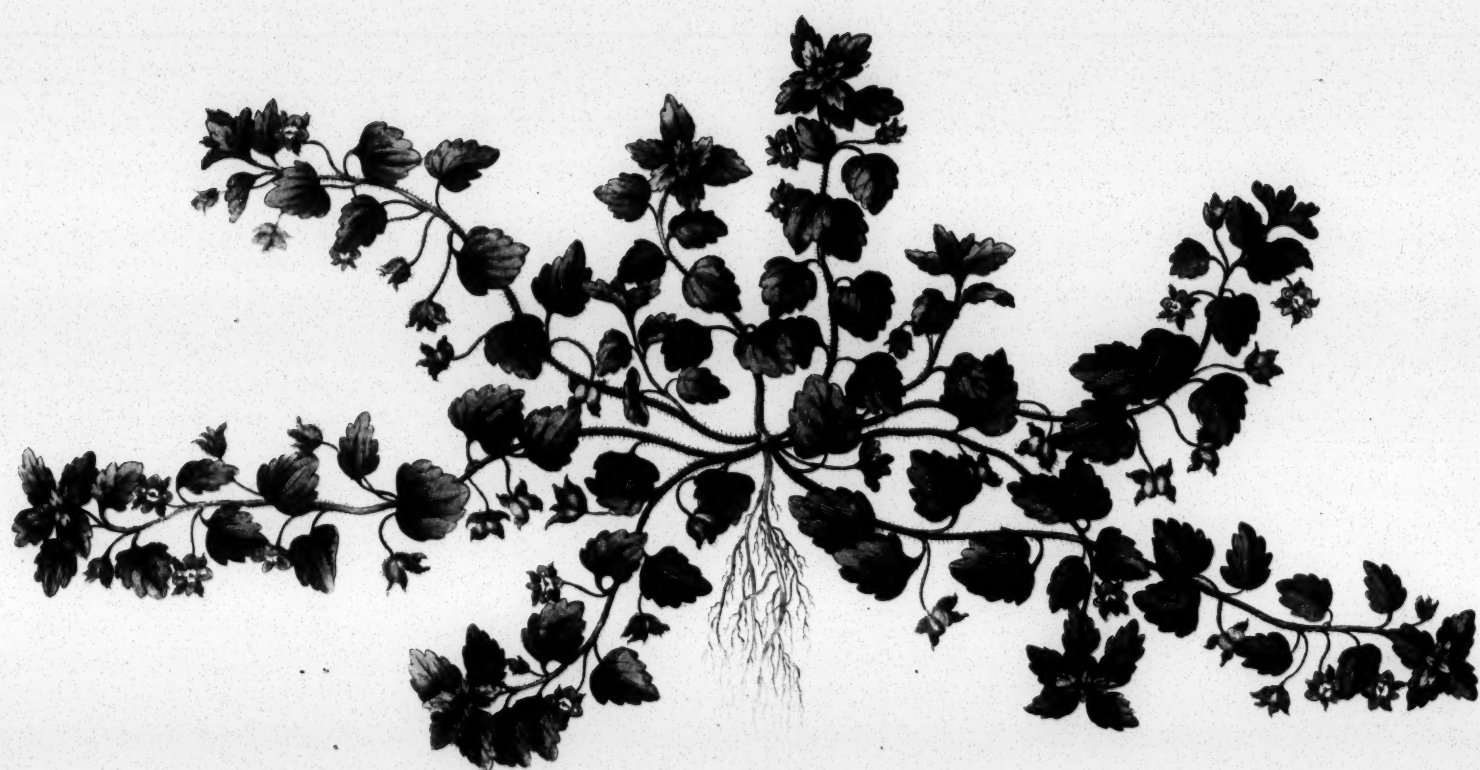
PISTILLUM: GERMEN inversely heart-shaped, flattened, and viscous, surrounded at bottom by a gland: STYLE very short, white, and strait; STIGMA thick, with an appearance of being cut off, *fig.* 4.

SEED-VESSEL a heart-shaped flattened CAPSULE, of a pale brown colour, *fig.* 5, containing of

SEEDS about fourteen, which are oval and flat, with a depression in the middle, *fig.* 6, 7.







Veronica agrestis.



VERONICA AGRESTIS. PROCUMBENT GARDEN-SPEEDWELL.

VERONICA *Linnaei. Gen. Pl.* DIANDRIA MONOGYNIA.

Raii. Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

VERONICA *agrestis*, floribus solitariis, pedunculatis; foliis cordatis incis, petiolatis; caule procumbente.

VERONICA *agrestis*, floribus solitariis, foliis cordatis incis pedunculo brevioribus. *Linnaei Syst. Vegetab. p.* 56.

VERONICA floribus solitariis, foliis cordatis incis petiolatis. *Hudson Fl. Angl. p.* 6.

VERONICA caule procumbente; foliis petiolatis, ovatis, crenatis. *Haller. Hist. V. 1. n.* 594.

VERONICA *agrestis. Scopoli. Fl. Carn. p.* 21 DIAGN. Primiflora; foliis ovato-cordatis, crenatis, pedunculo brevioribus.

VERONICA floribus singularibus, in oblongis pediculis, Chamædryfolia. *Raii. Syn. p.* 279. Germander-Speedwell or Chickweed.

ALSINE foliis Triflaginis: *Gerard. emac.* 616. *Parkinson.* 764.

ALSINE Chamædryfolia flosculis pediculis oblongis infidentibus. *Baubin. Pin.* 250. *Oeder. Fl. Dan. Icon.* 449.

RADIX annua, fibrosa.

CAULES plures, primum erecti, tandem procumbentes, semipedales, subvillosi, teretes.

FOLIA alterna, ovato-cordata, serrata, petiolis brevibus infidentia, subhirsuta.

FLORES pedunculati, pedunculi axillares, longitudine fere foliorum, post florescentiam reflexi.

CALYX: PERIANTHIUM quadripartitum, laciniis lanceolatis, hirsutis, subtortuosis, *fig.* 1.

COROLLA monopetala, subrotata, calyce brevior, laxissimo fere tactu decidua; TUBUS brevissimus; LACINIÆ concavæ, subrotundæ, nunc penitus cœruleæ, nunc venis cœruleis striatæ, *fig.* 2.

STAMINA: FILAMENTA duo, alba, medio crassiora; ANTHERÆ cœrulescentes, *fig.* 3.

PISTILLUM: GERMEN subcompressum, hirsutulum, basi nectario cinctum; STYLUS viridis, apice incrassatus, staminibus brevior; STIGMA album, capitatum, *fig.* 4.

PERICARPIUM CAPSULÆ *Veronica serpyllifolia* similis, at major rotundiorque, *fig.* 5.

SEMINA pallide fusca, plerumque 6 in singulo loculamento, rugosa, hinc convexa, inde concava, *fig.* 6.

ROOT annual and fibrous.

STALKS several, first upright, then procumbent, about six inches in length, round and somewhat villous.

LEAVES alternate, of an oval-heart shape, serrated, placed on short foot-stalks and slightly hairy.

FLOWERS placed on foot-stalks, which proceed from the Axillæ of the leaves and are nearly of the same length; after the flowers are gone off turning back.

CALYX: a PERIANTHIUM divided into four laciniæ, which are lanceolate, hairy, and somewhat twisted, *fig.* 1.

COROLLA monopetalous, somewhat wheel-shaped and shorter than the Calyx, falling off on the least touch; the TUBE very short; the LACINIÆ concave, and roundish, sometimes wholly blue, sometimes striped with blue, *fig.* 2.

STAMINA: two FILAMENTS of a white colour and thickest in the middle; ANTHERÆ blueish, *fig.* 3.

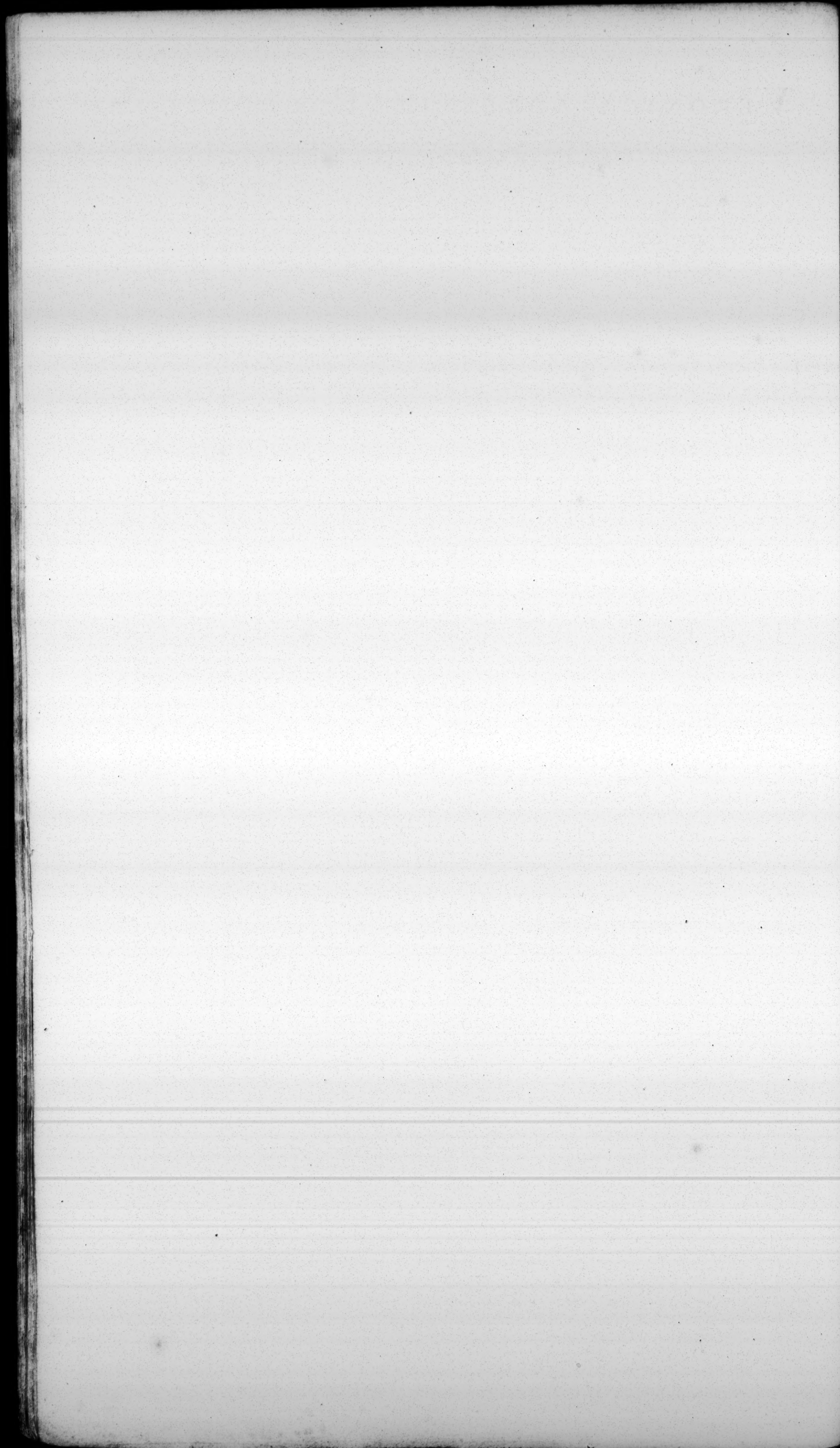
PISTILLUM: GERMEN flattish, a little hairy and surrounded at bottom by a Nectarium; the STYLE green, thickest at top, and shorter than the Stamina; STIGMA roundish and white, *fig.* 4.

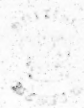
SEED-VESSEL a CAPSULE like that of the *Veronica serpyllifolia*, but larger and rounder, *fig.* 5.

SEEDS of a pale brown colour, generally 6 in each cavity, wrinkled, convex on one side and hollow on the other, *fig.* 6.

THERE are few Botanists but what are apt to confound this species of Veronica with the *Veronica arvensis*, and this appears to arise in some degree from their similarity to each other, but more perhaps from the similitude of their Latin, and the ambiguity of their English names. To prevent in some degree this confusion, I have taken the liberty of altering the English name of *Germander-Speedwell* or *Chickweed* to that of *procumbent garden Speedwell*, in order that the young Botanist may thereby more readily distinguish it from the species above mentioned. The stalks of the *Agrestis* are usually procumbent, and it is found generally in Gardens; whereas the *Arvensis* has an upright stalk, and with us is found most commonly on Walls. Besides such obviously distinguishing characters, these two plants differ considerably in many other respects. In the *Arvensis* the leaves are sessile, in *this* they are placed on footstalks; in the *Arvensis* the flowers are sessile, in *this species* they likewise, are placed on foot stalks: and a difference still more remarkable, or at least more curious, exists, which seems not to have been attended to, viz. the largeness and roundness of the seed-vessels, and the particular structure of the seed. In most of the Veronicas the seed-vessel is heart-shaped, and even in this species it retains somewhat of that form, although each of the Cavities is large and round; and if we examine the form of the seeds, we shall not wonder at this particular construction, for each seed instead of being small and flat as in other Veronicas, is large, convex on one side, hollow on the other, and wholly different in its appearance. This peculiarity of structure, shows what inconstancy there is in the parts of fructification, and how improper it would be to found a Genus on the particular form of any one of them, since those which are in general the most uniform, are sometimes subject to such uncommon variations. The number of seeds in each Capsule is generally about 12, LINNÆUS says 8, SCOPOLI from 16 to 20.

This species grows frequently in Gardens, and flowers through most of the summer months. No particular virtues or uses are attributed to it.







VERONICA HEDERÆFOLIA. IVY - LEAVED SPEEDWELL.

VERONICA *Linnæi* Gen. Pl. DIANDRIA MONOGYNIA.

Cor. Limbo 4-partito, laciniâ infimâ angustiore. Capsula bilocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

VERONICA *hederæfolia*, floribus solitariis, foliis cordatis planis quinquelobis. *Lin. Syst. Vegetab. p. 58.*

Spec. Plant. p. 19. Flor. Succic. p. 7.

VERONICA caule procumbente; foliis lobatis, petiolis paucifloris. *Haller. Hist. Helv. n. 550.*

VERONICA *hederæfolia*. *Scopoli Fl. Carniol. p. 21.*

ALSINE *Hederulæ folio*. *Bauhin. Pin. 250.*

ALSINE *Hederulæ folio minor*. *Parkinson. 760.*

ALSINE *hederacea*. *Ger. emac. 616.*

VERONICA flosculis singularibus, *Hederulæ folio*, *Morsus Gallinæ minor dicta*. Ivy-leaved Speedwell, or small Henbit, *Raii Syn. p. 280.*

Hudson. Fl. Angl. p. 6.

Lightfoot. Fl. Scot. p. 76.

RADIX annua, parva, fibrosa.

CAULIS decumbens, subramosus, teres, crassiusculus, tener, pilis mollibus vestitus, viticulis alines instar geniculatus.

FOLIA alterna, petiolata, subcordata, trilobata aut quinquelobata, subcarnosa, utrinque hirsuta, quinquenervia.

PEDUNCULI uniflori, axillares, demum reflexi.

CALYX: PERIANTHIUM tetraphyllum, foliolis magnis, cordatis, acutis, ciliatis, fig. 1.

COROLLA monopetala, rotata, pallide cœrulea, laciniis ovatis, infimâ angustiore, fig. 2, calyce brevioribus; Faux intus villosa, fig. 3.

STAMINA: FILAMENTA duo, alba: ANTHERÆ cœrulescentes, fig. 4, 5, 6.

PISTILLUM: GERMEN subrotundum: STYLUS filiformis, albus: STIGMA crassum, album, fig. 7.

PERICARPIUM: CAPSULA magna, obcordata, subrotunda, bilocularis, fig. 8

SEMINA duo in singulo loculamento, magna, nectario Cypripedii haud dissimilia, pallide fusca, intus concava, umbilicata, fig. 9, 10, 11.

ROOT annual, small, and fibrous.

STALK decumbent, somewhat branched, round, thickish, tender, covered with soft hairs, and stringy within like Chickweed.

LEAVES alternate, standing on foot-stalks, somewhat heart-shaped, with three or five lobes, a little fleshy, and hirsute on each side.

FLOWER-STALKS, each supporting one flower, proceeding from the bosoms of the leaves, finally bending downward.

CALYX: a PERIANTHIUM of four leaves, which are large, heart-shaped, pointed, and edged with hairs, fig. 1.

COROLLA, of one PETAL, wheel-shaped, pale blue, the segments oval, the lower one narrowest, fig. 2, shorter than the calyx; the Mouth villous within, fig. 3.

STAMINA: two white FILAMENTS: ANTHERÆ blueish, fig. 4, 5, 6.

PISTILLUM: GERMEN roundish: STYLE thread-shaped and white: STIGMA thick and white, fig. 7.

SEED-VESSEL: a CAPSULE, large, somewhat inversely heart-shaped, roundish, with two cavities, fig. 8.

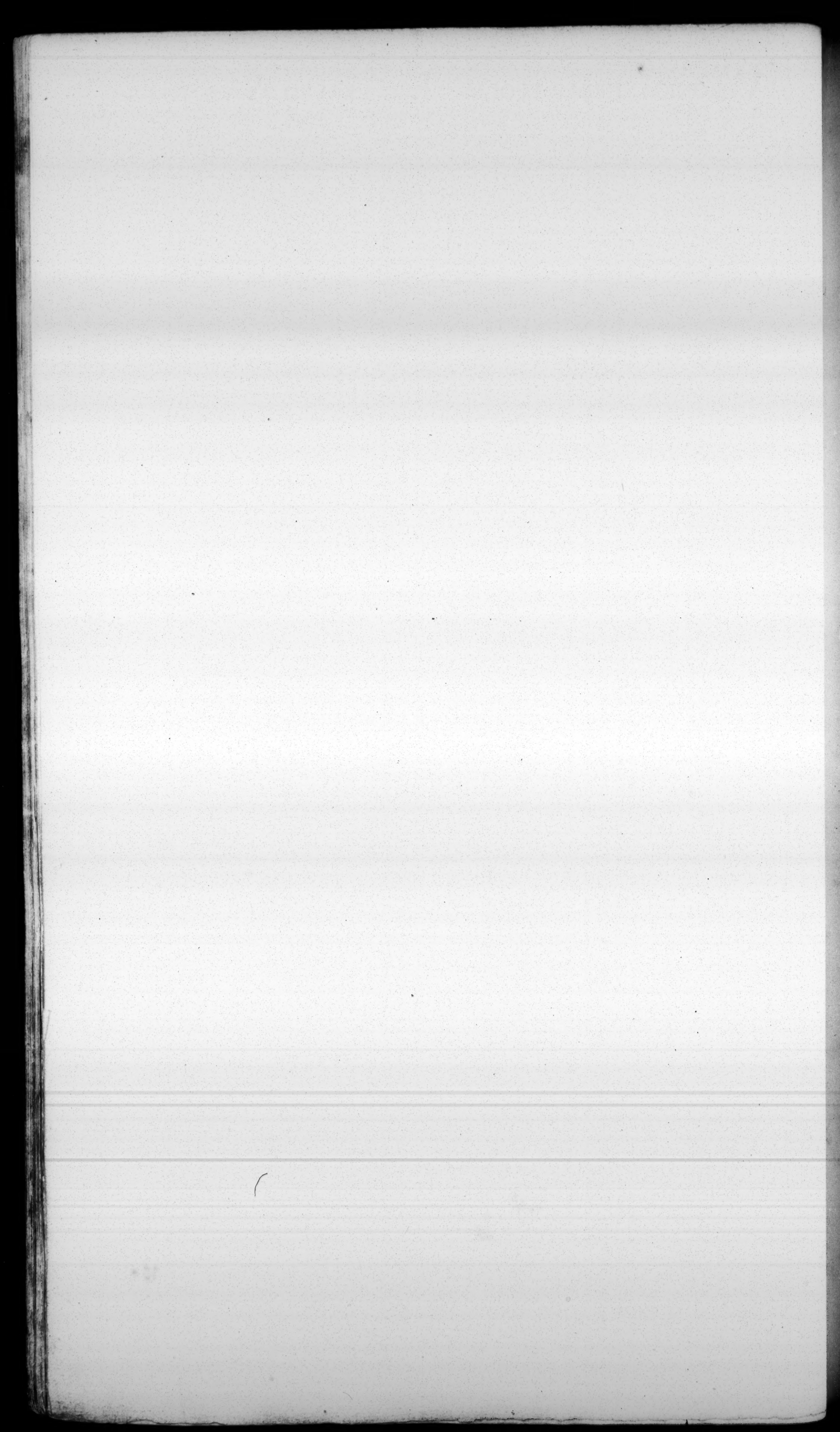
SEEDS two in each cavity, large, in form not unlike the Nectary of the Ladies Slipper, of a pale brown, hollow within, with a navel-like appearance, externally convex, and grooved or notched, fig. 9, 10, 11.

THE *Veronica hederæfolia* appears to be a very general plant throughout Europe.

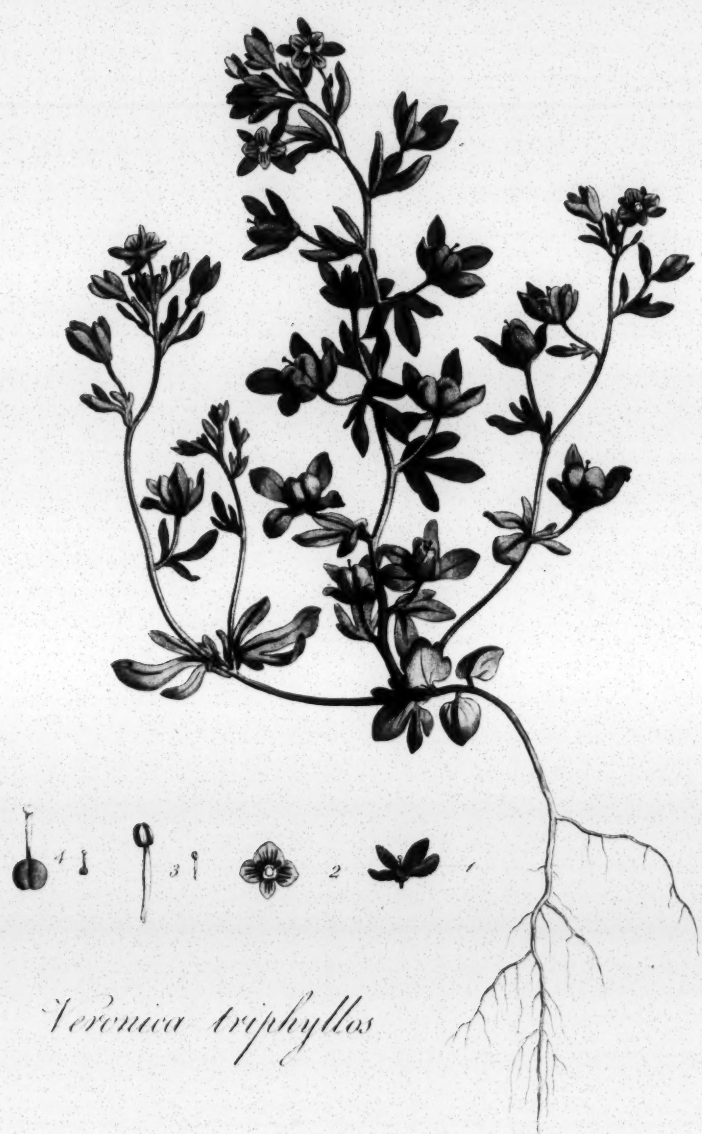
Of our English *Speedwells*, it has the greatest affinity to the *Veronica agrestis*, as well in its habit and place of growth, as in the peculiar formation of its seed-vessels and seeds: but although its seed-vessels are nearly of the same size, yet its seeds are considerably larger: in the one we scarce ever observe more than four, and often but two; in the other we generally find eight or more; hence we are able to account for the remarkable large seed-leaves which occur in this species. The *hederæfolia* differs also from the *agrestis* in several other respects; the leaves are more thinly placed on the stalks, and have seldom more than two or four notches in them; and the flowers are of a very pale blue colour.

Like the *agrestis* it grows in gardens and corn-fields, particularly in the latter, when the soil is light, in great abundance; and flowers in April. Its seeds are ripe the latter end of May.

The farmer may consider it as an harmless annual. Its virtues, if any, remain as yet undiscovered.







Veronica triphyllos

Edwards del. P. A. G.

VERONICA TRIPHYLLOS. TRIFID SPEEDWELL.

VERONICA. *Linn. Gen. Pl.* DIANDRIA MONOGYNIA.

Cor. Limbo 4-partito, lacinia infima angustiore. *Caps.* bilocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

VERONICA *triphyllus* floribus solitariis, foliis digitato partitis, pedunculis calyce longioribus. *Linn. Syst. Vegetab. ed. 14. Murr. p. 60. Scop. Fl. Carn. ed. 2. n. 25. Hudf. Fl. Angl. ed. 2. p. 7. triphylla. Flor. Succ. ed. 2. p. 7.*

VERONICA foliis ovatis, tripartitis, et quinquepartitis, floribus longe petiolatis. *Hall. Hist.* 551.

VERONICA flosculis singularibus, foliis laciniatis, erecta. *Raii Syn. ed. 3. p. 280.* Upright Speedwell with divided leaves.

ALSINE triphyllus cærulea. *Bauh. Pin.* 250.

ALSINE parva recta, folio Alfinæ hederacæ Rutæ modo diviso. *Lob. icon.* 464.

ALSINE recta. Right Chickweede. *Ger. Herb. p. 489. emac. p. 612. f. 5.*

ALSINE recta triphyllus, five laciniata. *Park. Tb. p. 760.* Upright Chickweede with jagged leaves.

ALSINE recta flore cæruleo. Upright blew Chickweede. *Park. Tb. p. 1260. f. 6.*

ALSINE folio profunde secto, flore purpureo seu violaceo. *I. B. 3. 367.*

VERONICA folio Rutæ. *Riv. t. 96.*

RADIX annua, fibrosa.

CAULES plures, subpalmares, erectiusculi, teretes, superne viscidii, pallide virides, aut subrubentes, pendente florescentia subnutantes.

FOLIA patentia, remotiuscula, alterna et opposita, crassiuscula, utrinque pilosa, subtus sæpe rubentia, inferiora cordato-ovata, brevissime petiolata, superiora sessilia, digitato-quinquepartita, et tripartita, laciniis cuneiformibus, intermedia maxima.

FLORES axillares, solitarii, saturate et splendide cærulei; *Pedunculi* foliis breviores.

CALYX: PERIANTHIUM monophyllum, persistens, quadripartitum, laciniis obovatis, foliis superius plantæ similibus, *fig. 1.*

COROLLA monopetala, rotata, calyce minor; *Tubus* brevissimus, albus; *Limbus* quadripartitus, planus, laciniis ovatis, infima angustiore, huic opposita latiore, *fig. 2.*

STAMINA: FILAMENTA duo, inferne angustiora, alba; ANTHERÆ oblongæ, cæruleæ, *fig. 3.*

PISTILLUM: GERMEN compressum; STYLUS filiformis, longitudine staminum; STIGMA simplex, albidum, *fig. 4.*

PERICARPIUM: CAPSULA magna, obcordata.

SEMINA plurima, e fusco nigricantia, hinc convexa, gibba, rugosa, illinc concava.

ROOT annual, fibrous.

STALKS numerous, about a hand's breadth high, nearly upright, round, on the upper part viscid, of a pale green or reddish colour, drooping a little during the flowering period.

LEAVES spreading, rather remote, alternate and opposite, thickish, hairy on both sides, often reddish on the under side, the lowermost heart-shaped ovate, standing on very short footstalks, the upper ones sessile, fingered, or divided deeply into five and three parts, the segments wedge-shaped, the middle one very large.

FLOWERS placed singly in the bosoms of the leaves, of a deep and bright blue colour; *Flower-stalks* shorter than the leaves.

CALYX: a PERIANTHIUM of one leaf, continuing, deeply divided into four segments, which are obovate, and like the uppermost leaves of the plant, *fig. 1.*

COROLLA monopetalous, wheel-shaped, smaller than the calyx; *Tube* very short and white; *Limb* deeply divided into four segments, flat, segments ovate, lowermost one narrower, uppermost one broader than the rest, *fig. 2.*

STAMINA: two FILAMENTS, narrowest below, white; ANTHERÆ oblong, blue, *fig. 3.*

PISTILLUM: GERMEN flattened; STYLE filiform, the length of the stamens; STIGMA simple, whitish, *fig. 4.*

SEED-VESSEL: a large CAPSULE, inversely heart-shaped.

SEEDS numerous, of a blackish brown colour, convex, gibbous, and wrinkled on one side, hollow on the other.

The *Veronica triphyllus*, a plant common to most parts of Europe, and chiefly found in corn-fields, where the soil is light, is of very partial growth in this country, and found principally in the counties of Norfolk* and Suffolk; we have received specimens of it from Sir THOMAS FRANKLAND, gathered by him in Yorkshire.

It flowers very early in the spring, in March, and April, and ripens its seeds in June, from these spontaneously scattered, young plants come up readily in autumn; in favourable soils this species, like the *hederifolia* and *agrestis*, seems much disposed to become a weed; but, like them, is too trifling to be injurious.

C. BAUHINE mentions two varieties of this Veronica, one with larger and thicker leaves, the other with smaller ones; these scarcely deserve the name of varieties: HALLER observes, that six inches is the utmost height of the plant, we have seen it much taller; the summits of the flowering branches for the most part bend somewhat downwards, a peculiarity of the plant which we have not found noticed by authors.

This species is too distinct to be mistaken for any other English one, its divided leaves, the deep rich blue colour of its flowers, and the largeness of its seed-vessels obviously distinguish it.

Triphyllus, a name given to it by some of the old Botanists, is not always applicable, the leaves in young plants particularly, being often divided into more than three segments.

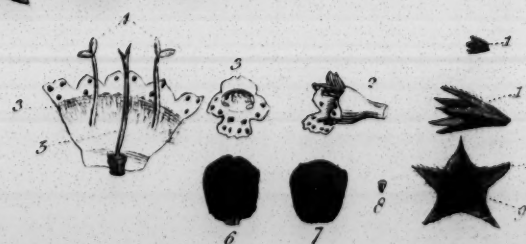
* At Rowton in Norfolk, betwixt the town and the highway, twelve miles before you come to Norwich; at Mewel in Suffolk, between the two windmills and the warren-lodge; in the gravel-pits, two miles beyond Barton Mills, on the ridge of the hill where a small cart-way crosseth the road to Lynn; and in the grafs thereabouts, plentifully. TH. WILLISL. *Ray's Syn. ed. 3. p. 280.*







Lycopodium europaeus.



LYCOPUS EUROPÆUS. WATER HOREHOUND.

LYCOPUS *Lin. Gen. Pl.* DIANDRIA MONOGYNIA

Cor. 4. fida: lacinia unica emarginata. *Stamina* distantia, *Semina* 4. retusa.

Raii. Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

LYCOPUS *europæus* foliis sinuato-ferratis. *Lin. Syst. Vegetab.* p. 63. *Sp. Pl.* p. 30. *Fl. Suec.* n. 31.

LYCOPUS foliis acute ferratis et appendiculatis. *Haller Hist.* 220.

LYCOPUS *europæus*. *Scopoli Fl. Carn.* n. 29.

LYCOPUS palustris glaber *J. R. H.* 191.

MARRUBIUM palustre glabrum *Bauh. p.* 230.

MARRUBIUM aquaticum. *Ger. emac.* 700.

MARRUBIUM aquaticum vulgare. *Parkins.* 1230. *Raii. Syn.* p. 236. Water Horehound.

Hudson Fl. Angl. ed. 2.

Lightfoot Fl. Scot.

RADIX perennis, repens.

CAULIS pedalis, ad tripedalem, erectus, quadratus, hirsutus, ad basin usque ramosus; *Rami* oppositi.

FOLIA opposita, ovata, acuta, sessilia, subrugosa, hirsutula, sinuato-ferrata.

FLORES parvi, albi, ad genicula in verticillos densos dispositi.

CALYX: PERIANTHIUM monophyllum, tubulatum, semiquinquefidum, hirsutum, laciniis acuminatis. *fig.* 1.

COROLLA monopetalâ, alba, *Tubus* cylindraceus, brevis, *Limbus* quadrifidus, villosus, laciniis subæqualibus, superiore emarginatâ, omnibus præsertim inferiore rubro punctatis. *fig.* 2. 3.

STAMINA: FILAMENTA duo, corollâ longiora, primum inflexa, demum recta; ANTHERÆ parvæ, subulnulatæ, albidæ. *fig.* 4.

PISTILLUM: GERMEN quadrifidum, substantiâ glandulosâ ad basin cinctum; STYLUS filiformis, rectus, longitudine Stamini; STIGMA bifidum. *fig.* 5.

SEMINA quatuor, *fig.* 9. fusca, nitida, oleo quasi illinita, subtriangularia, externe planiuscula, lineâ, subcordata in medio impressâ, interne medio ad angulum producta, lateribus subinvolutis. *fig.* 6. externe. *fig.* 7. interne visum.

ROOT perennial and creeping.

STALKS from one to three feet in height, upright, four corner'd, beset with rough hairs, branched quite to the bottom; *Branches* opposite.

LEAVES opposite, ovate, pointed, sessile, somewhat wrinkled, slightly hirsute, sawed at the edge, the incisions deep and somewhat waved.

FLOWERS small, and white, disposed round the joints in thick whirls.

CALYX: a PERIANTHIUM of one leaf, tubular, and hirsute, slightly divided into five segments, which run out to a fine point. *fig.* 1.

COROLLA monopetalous and white, *Tube* cylindrical, short, *Limb* divided into four segments, blunt, spreading, villous within, the segments nearly equal, the uppermost notched, all of them especially the lower one dotted with red, *fig.* 2. 3.

STAMINA: two Filaments, longer than the corolla, at first bent in, afterwards straight; ANTHERÆ small, somewhat crescent-like and whitish. *fig.* 4.

PISTILLUM: GERMEN divided into four parts, surrounded at bottom by a glandular substance; STYLE filiform, straight, the length of the Stamina; STIGMA bifid. *fig.* 5.

SEEDS four, *fig.* 9. brown, shining as if anointed with oil, somewhat triangular, externally flattish, with an impressed somewhat heart-shaped line in the middle, internally the middle running out to a point or angle, the sides somewhat rolled in *fig.* 6. seen externally. *fig.* 7. internally.

THIS is one of the most common plants one meets with in Meadows, by the sides of rivers, and streams of water, it flowers in August and September.

In its habit it manifests the greatest affinity with the *Herbæ verticillatæ* of RAY, but like the genus *Salvia*, differs from them in its fructification.

The leaves vary in being more or less hairy, and more or less finely divided.

In some Meadows it abounds so much as to be noxious to the farmer; Cattle appear never to touch it; its root being of the creeping kind, renders it difficult of extirpation.

It is said to give a durable stain to whatever it touches, to be used by the French as an assistant ingredient in dyeing black, and by Gypsies in staining their skins. *Lin. flor. suec.* *Haller. hist. helv.*





Salvia Verbenaca

SALVIA VERBENACA. WILD SAGE, or CLARY.

SALVIA Linn. Gen. Pl. DIANDRIA MONOGYNIA.

Corolla inæqualis. Filamenta transverse pedicello affixa.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

SALVIA *Verbenaca* foliis serratis sinuatis læviusculis, corollis calyce angustioribus. Linn. Syst. Vegetab. ed. 14. p. 70. Sp. Pl. p. 35. Lightfoot Scot. v. 1. p. 79. Hudf. Fl. Angl. ed. 2. p. 10.

HORMINUM sylvestre Lavendulæ flore. Baub. Pin. 239. Park. Tb. p. 57. Wild Clary with Spike Flowers. Raii Syn. ed. 3. p. 237. Common English wild Cary.

HORMINI sylvestris IIII. quinta species. Clus. 2. p. xxxi.

HORMINUM sylvestre. Ger. Herb. p. 628. Wild Clarie or Oculus Christi; as to the description, the figure doubtful, the radical leaves being too pointed and the flowers too large. Ger. emac. p. 771. f. 1.

RADIX perennis, fusca, crassitie digiti intermedi de-
scendens, plurimis fibris capillata.

CAULES erectiusculi, bipedales, tetragoni, pilosi, pilis
horizontalibus, subviscidis, ad nodos præcipue
purpurascens, ramosi; Rami oppositi.

FOLIA radicalia longe petiolata, variabilia, oblonga,
apice nunc rotundata, nunc acutiuscula, basi
nonnunquam cordata, sæpius vero folium in
petiolum utrinque decurrit et ad unum latum
longius extenditur, hirsutula, sinuato-serrata,
subtus pallidiora, venosa et punctis glandu-
losis excavatis notata; caulina remotiuscula,
inferiora petiolata, petiolis brevioribus, su-
prema sessilia.

FLORES verticillati, verticillis nudiusculis, subsexfloris.

BRACTEÆ cordatæ, acuminatæ, deflexæ, floribus
breviores.

CALYX: PERIANTHIUM monophyllum, bilabiatum,
purpurascens, viscidulum, persistens; labium
superius obovatum, mucrone brevi sæpius
terminatum, trinerve, nervis duobus abbre-
viatis, labium inferius nervosum ad dimidiam
fere bifidum; laciniis ovato-lanceolatis, mu-
cronatis, sursum curvatis, fig. 1.

COROLLA monopetala, inæqualis, violacea, calyce
paulo longior; *Tubus* superne ampliatus, com-
pressus; *Limbus* ringens; *Labium* superius
concavum, compressum, incurvum, emargi-
natum; *Labium* inferius latum, trifidum,
lacinia media majori, rotundata, depresso,
emarginata, fig. 2.

STAMINA: FILAMENTA duo, brevia; ANTHERÆ
oblongæ, nigræ, fig. 3.

PISTILLUM: GERMEN quadrifidum; STYLUS fili-
formis, longus; STIGMA bifidum, fig. 4.

SEMINA quatuor in fundo calycis, subrotunda, nigra,
fig. 5, 6.

ROOT perennial, brown, the thickness of the middle-
finger, striking deep into the earth, and fur-
nished with numerous fibres.

STALKS nearly upright, two feet high, four-cornered,
hairy (hairs horizontal, somewhat viscid)
purplish, especially at the joints, branched;
Branches opposite.

LEAVES next the root standing on long footstalks,
variable in their form, oblong, sometimes
rounded at the extremity, sometimes a little
pointed, not unfrequently heart-shaped at the
base, but more commonly the leaf runs down
on each side of the footstalk, and to a greater
length on the one side than on the other, very
slightly hirsute, on the margin irregularly
waved and sawed or toothed, of a paler
colour on the under side, veiny and marked
with small glandular concave dots; the stalk-
leaves somewhat remote, the lowermost of
them standing on short foot-stalks, the upper-
most sessile.

FLOWERS growing in whorls, somewhat naked,
containing about six flowers.

FLORAL-LEAVES heart-shaped, long-pointed, turned
down, shorter than the flowers.

CALYX: a PERIANTHIUM of one leaf, two lip'd,
purplish, slightly viscid, and continuing; the
upper lip obovate, most commonly terminated
by a short point, three-rib'd, two of which
are much shorter than the middle one; the
lower lip rib'd, divided nearly half way down,
segments ovato-lanceolate, pointed, turned
up, fig. 1.

COROLLA monopetalous, unequal, violet-coloured, a
little longer than the calyx; *Tube* above en-
larged, flattened; *Limb* gaping; upper *Lip*
concave, flattened, bent downwards, emar-
ginate; lower *Lip* broad, trifid, middle seg-
ment largest, rounded, depressed, emarginate,
fig. 2.

STAMINA: Two FILAMENTS, short; ANTHERÆ
oblong, black, fig. 3.

PISTILLUM: GERMEN quadrifid; STYLE filiform,
long; STIGMA bifid, fig. 4.

SEEDS four in the bottom of the calyx, of a roundish
figure and black colour, fig. 5, 6.

The *Salvia Verbenaca* is a common plant, not only in dry pastures and uncultivated places near London, but generally throughout the kingdom; we have frequently remarked that it very often occurs in Church-Yards.

It flowers during most of the summer, and towards autumn produces abundance of seeds, which scattering on the ground, and readily growing, dispose this plant soon to become a weed.

It varies considerably in size, and very much in the form of its leaves; when bruised it emits a strong and somewhat unpleasant smell.

The seed put into water soon becomes invested with a thick mucilage.

Formerly it had some reputation as a medicinal plant; GERARD tells us, "That the seede put whole into the eies clenseth and purgeth them exceedingly from waterish humours, rednesse, inflammation, and divers other maladies, or all that happen unto the eies; and takes away the pain and smarting thereof, especially being put into the eies one seed at one time and no more." RAY, who was too credulous in matters of this sort, attributes their efficacy to their form and smoothness; we have heard their mode of operating accounted for in some other way: but surely there is a manifest absurdity in the idea thus entertained of their efficacy, and no small danger attendant on their use: the putting a hard substance into a part naturally so tender as the eye, must at any time be sufficient to excite inflammation, and at all times increase it; we therefore caution such of our readers as are fond of using the edged tools of medicine, to be on their guard against applying so doubtful a remedy in diseases of an organ so exquisitely formed.







Circaea lutetiana.

CIRCAEA LUTETIANA. ENCHANTERS NIGHTSHADE.

CIRCAEA Lin. Gen. Pl. DIANDRIA MONOGYNIA

Cor. dipetala. Cal. diphyllus, superus. Sem. i. biloculare.

Raii. Syn. Gen. 19. 20. HERBÆ VASCULIFERÆ, FLORÆ DIPETALO ET TRIPETALO.

CIRCAEA lutetiana, caule erecto, racemis pluribus, foliis ovatis. Lin. Syst. Vegetab. p. 55. Sp. Pl. p. 12.

Fl. Suevic. n. 6.

CIRCAEA foliis subcordatis subferratis. Haller hist. n. 813.

CIRCAEA lutetiana. Scopoli. Fl. Carn. n. 6.

CIRCAEA lutetiana. Lob. ic. 266. Ger. emac. 351.

CIRCAEA lutetiana major. Park. 351.

SOLANIFOLIA Circaea dicta major. Bauh, pin. 168.

OCYMASTRUM verrucarium. J. B. 11. 977. Raii. Synops. p. 289. Enchanters Nightshade.

Oeder. Fl. Dan. t. 256.

Lightfoot Fl. Scot. p. 20.

Hudson. Fl. Angl. p. 10.

RADIX perennis, repens, stolonibus albis.

CAULIS pedalis ad sesquipedalem, suberectus, teres, lævis, geniculis incrassatis, purpurascens, ramosus.

RAMI oppositi, longi, inferne foliosi, superne pubescentes.

FOLIA opposita, petiolata, subcordata, acuta, lævia, inferne pallidiora, margine dentata.

FLORES parvi, albi, summitatibus ramulorum racematim infidentes.

PEDUNCULI alterni, demum deflexi.

CALYX: PERIANTHIUM diphyllum, foliolis ovatis, concavis, deflexis, purpureis, pedunculo communi infidentibus. fig. 1. 9.

COROLLA: PETALA duo, obcordata, longitudine calycis, patentia, æqualia, carnea, sessilia. fig. 2.

STAMINA: FILAMENTA duo, capillaria, erecta, alba; ANTHERÆ subrotundæ, majusculæ, albidæ. fig. 3.

PISTILLUM: GERMEN inferum, hispidum; STYLUS filiformis, longitudine staminum; STIGMA bifidum, ruberrimum. fig. 4. 8.

PERICARPIUM: CAPSULA turbinato-ovata, compressa, hispida, pilis uncinatis, bilocularis, bivalvis, a basi ad apicem dehiscens. fig. 5. 6.

SEMINA duo, oblonga, inferne angustiora. fig. 7.

ROOT perennial and creeping, its young shoots white.

STALKS from a foot to a foot and half in height, nearly upright, round, smooth, the joints swelled and purplish, branched.

BRANCHES opposite, long, on the lower part leafy, on the upper downy.

LEAVES opposite, standing on foot-stalks, somewhat heartshaped, pointed, smooth, of a paler green on the under side, the edge toothed.

FLOWERS small, whitish, placed on the tops of the branches in racemi.

FLOWER-STALKS alternate, finally turned downwards.

CALYX: a PERIANTHIUM of two leaves, which are ovate, hollow, turned back, of a purple colour, sitting on one common footstalk. fig. 1. 9.

COROLLA: two PETALS inversely heartshaped, the length of the calyx, spreading, equal, flesh-colour'd and sessile. fig. 2.

STAMINA: two FILAMENTS, very fine, upright, of a white colour; ANTHERÆ roundish, rather large, of a whitish colour. fig. 3.

PISTILLUM: GERMEN placed below the calyx, hispid, and grey; STYLE filiform, the length of the stamens; STIGMA bifid, of a bright red colour. fig. 4. 8.

SEED-VESSEL: a CAPSULE somewhat egg-shaped, but considerably broadest at one end, flatten'd, hispid, the hairs hooked at the extremity, having two cavities and two valves, and opening from the bottom to the top. fig. 5. 6.

SEEDS two, oblong, narrowest at the bottom. fig. 7.

THE Enchanters Nightshade is a plant by no means uncommon in particular situations, as in shady lanes, in orchards, under hedges, walls, and in woods, it flowers in July and August; the Botanist will discover many beauties in its fructification, the gardener finds a difficulty in destroying it, its root being of the creeping kind.

Its seeds being arm'd with little hooks are apt to adhere to ones cloaths.

The caterpillar of the Sphinx Elpenor or Elephant Hawk Moth which chiefly confines itself to the Galium palustre or marsh Ladies Bedstraw has sometimes been found feeding on this plant, nor is this the only instance of its departure from its usual food, in the Autumn of seventy-nine the same species of caterpillar was sent me from the country, the plant on which it was there found was the Arum Dracunculus or Dragons, one very dissimilar in its nature to the Galium, I have often had occasion to observe that some caterpillars will perish unless they have their peculiar food, while others will devour any vegetable that presents itself; who would think that the Phalaena Brassicae, would feed heartily, and be nourished by the leaves of the deadly Nightshade, or the roots of the Onion? yet I have myself been an eye witness to both instances.







Anthoxanthum odoratum.

ANTHOXANTHUM ODORATUM. SWEET-SCENTED OR VERNAL GRASS.

ANTHOXANTHUM *Linnaei Gen. Pl.* DIANDRIA DIGYNIA.

Calyx. Gluma bivalvis, uniflora. *Corolla.* Gluma bivalvis, acuminata. *Semen* unicum.

Raii Synop. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ,

ANTHOXANTHUM *odoratum* spica oblonga, ovata, laxa.

ANTHOXANTHUM *odoratum* spica oblonga, ovata, flosculis subpedunculatis arista longioribus, *Linnaei Syst. Vegetab. p.* 67. *Fl. Suecic. No.* 33.

AVENA diantha, folliculo villosa, calycis glumis inæqualibus, altera de imo dorso, altera de summo aristata. *Haller. hist. helv. No.* 1491.

ANTHOXANTHUM *odoratum* *Scopoli Fl. Carniol. No.* 38. *Hudson Fl. Angl. p.* 10. *Stillingfleet miscel. t. 1. Schreber Gram. tab. 5. p.* 49.

GRAMEN pratense spica flavescente. *Baubin. Pin.* 3.

GRAMEN vernum spica brevi laxa. *Raii Syn. 389. Scheuch. hist. 88.*

RADIX perennis, fibrosa.

CULMI primum obliqui, demum erecti, dodrantes aut pedales.

FOLIA inter digitos attrita odorem Asperulæ odoratæ spargunt, plerumque pubescentia, sæpe leniter tortuosa, membranâ ad basin instructa, Vagina striata, lævis.

SPICÆ oblongo-ovatae, laxæ.

CALYX: GLUMA bivalvis, Valvulis inæqualibus, inferiore dimidio brevior, membranacea, acuta, superiore acuminata, nervis tribus viridibus extantibus, *fig. 3, 2.*

COROLLA: GLUMA bivalvis, valvulæ subæquales, membranaceæ, pilosæ aristatæ, fuscæ; altera Arista quæ demum geniculata fit, prope basin exsurgit, altera prope apicem, *fig. 4.*

NECTARIUM: GLUMULÆ duæ, pellucidæ, nitidæ, ovatae, inæquales, germen includentes, *fig. 5, 6.*

STAMINA: FILAMENTA duo prælonga; ANTHERÆ oblongæ, purpureæ, utrinque furcatæ, *fig. 5.*

PISTILLUM: GERMEN minimum oblongo-ovatum; STYLI duo filiformes glumi longiores, versus apicem plumulosæ, *fig. 7.*

SEMEN unicum, Nectario fusco, nitido, inclusum, *fig. 8.*

ROOT perennial and fibrous.

STALKS at first growing obliquely, finally becoming upright, usually from 8 to 12 inches high.

LEAVES, if rubbed betwixt the fingers, smelling like Woodroff, generally pubescent and often curled, furnished with a membrane at bottom; the Sheath striated and smooth.

SPIKES of an oblong oval shape and smooth.

CALYX: a GLUME of two Valves, the Valves unequal, the lowermost shorter by one half, membranous and acute; the uppermost acuminated, with three strong nerves or ribs, *fig. 3, 2.*

COROLLA: a GLUME of two Valves, the Valves nearly equal, membranous, hairy, of a brown colour, and furnished with Arista, one of the Arista, which finally becomes bent, springs from the base of the Valve, the other almost at the top, *fig. 4.*

NECTARIUM: two small, pellucid, shining, oval, unequal Glumes or Valves inclosing the Germen, *fig. 5, 6.*

STAMINA: two FILAMENTS very long; ANTHERÆ long, purple, forked at each end, *fig. 5.*

PISTILLUM: GERMEN very small, of an oblong oval shape; STYLES two, slender, longer than the valves, and towards the top a little feathered, *fig. 7.*

SEED single, inclosed within its brown, shining Nectarium, *fig. 8.*

THE *Anthoxanthum* is distinguished from the other Grasses by a very singular circumstance, viz. that of having only two Stamina, *fig. 1.* hence it is placed by LINNÆUS among the *Diandrous* plants, and separated from all the other Grasses; this peculiarity, although it occasions a separation which does violence as it were to Nature, yet it serves in a very striking manner to discriminate this Genus from a numerous and difficult tribe of plants: exclusive of this singularity, it differs also very essentially in the other parts of its fructification; each of the Spiculæ contains in common with many other grasses, only one flower, *fig. 1:* one of the *Glumæ Calycinae*, or valves of the Calyx, is small and membranous, *fig. 3;* the other is large, and incloses, or wraps up in it, as it were, the whole of the fructification, *fig. 2;* these glumes, so far as I have observed, do not open and expand themselves in the manner observable in the *Avena's*, and many other grasses, were they separate quite wide, and expose their little feathery Styles; but the Stamina and Pistilla appear to push themselves out, the glumes remaining closed, *fig. 1.* The *Glumæ Corollaceæ* are very dissimilar to those of most other grasses, being remarkably hairy, and having each of them an Arista, the longest of which springs from near the base of the glume, is at first straight, but as the seed becomes ripe, the top of it is generally bent horizontally inward; the other Arista arises from near the top of the opposite Glume or Valve, *fig. 4.* The *Glumule Nectarii* or little Glumes of the Nectarium, differ no less in their structure, being composed of two little oval shining Valves, one of which is smaller than the other; these closely embrace the Germen, and cannot be seen but with great difficulty, unless they are observed just at the time that the Antheræ are protruding from betwixt them, when they are very distinct, *fig. 6;* as soon as the Antheræ are excluded, they again close on the Germen, and continue to form a coat to the seed which does not separate, *fig. 5, 8.*

The Farmer, or those who have not been accustomed to examine plants minutely, may readily distinguish this grass by its smell; if the leaves are rubbed betwixt the fingers, they impart a grateful odour like that of Woodruff,—hence I have called it sweet-scented.

Like the *Trifolium repens* or Dutch Clover, and many others of our most useful plants, this Grass grows on almost every kind of soil, from the poorest and driest, to the most fertile and boggy; it seems however in general to prefer a soil that is moderately dry. It is subject, like all other plants, to vary in its size, according to the goodness of the ground it grows in: the leaves have a particular tendency to be curled if the soil be rich; and when it grows in woods, the spikes are often much slenderer and looser.

It has been called by some Authors *Vernal* or *Spring Grass*, from its coming into ear earlier than most others; towards the middle of May it is in full bloom, and about the middle of June the seed is ripe—and may be easily separated on rubbing.

There is great reason to believe, that this is one of our Grasses which might be cultivated with considerable advantage: in the meadows about town it grows to a considerable height, and forms a thick tuft of leaves at bottom; but the circumstance most in its favour, is its early appearance in the Spring: this seems to point it out as a proper grass to sow with others in laying down meadow land, and probably the *Poa trivialis* or common Meadow Grass, with the *Festuca elatior* or Meadow Fescue joined to it, would form a mixture, the produce of which, would for this purpose, be superior to that of most others.





Valeriana officinalis.

VALERIANA OFFICINALIS. WILD VALERIAN.

VALERIANA. Linn. Gen. Pl. TRIANDRIA MONOGYNIA.

Cal. o. Cor. 1. petala, basi hinc gibba, supera.

Raii Syn. Gen. 10. HERBÆ FLORE PERFECTO SIMPLICI, SEMINIBUS NUDIS SOLITARIIS, SEU AD SINGULOS FLORES SINGULIS.

VALERIANA *officinalis* floribus triandris, foliis omnibus pinnatis. Linn. Syst. Vegetab. ed. 14. Murr. p. 80. Sp. Pl. ed. 2. p. 40. Fl. Suec. n. 34. Scop. Fl. Carn. ed. 2. n. 39. Berg. Mat. Med. p. 30. Hudson Fl. Angl. ed. 2. p. 12. Lightfoot Scot. V. 1. p. 85.

VALERIANA foliis pinnatis, pinnis dentatis. Hall. Hist. n. 210.

VALERIANA *sylvestris* major. Baub. Pin. 164. Ger. Herb. p. 917. fig. 2. Great Wilde Valerian, *emac.* 1075. fig. 2. Threlk Syn.

VALERIANA *sylvestris*. Wilde Valerian. Park. Th. p. 123. f. 13.

VALERIANA *sylvestris* magna aquatica. J. Baub. III. 2. 211. Raii Syn. ed. 3. p. 200. Great Wild Valerian.

RADIX perennis, subpræmorfa, fibrosa, fibris plurimis, majusculis, stolonem unum alterumve longe protensum e caudice emittens.

CAULIS pedalis ad tripedalem, et ultra, erectus, teres, sulcatus, fistulosus, hinc hirsutus, terminans in ramos floriferos brachiatim dispositos.

FOLIA opposita, connata, basi subtus barbata, pinnata; Costa leviter pubescens; Foliola 11 ad 13, nunc opposita, nunc alterna, subdecurrentia, lanceolato-oblonga, acutiuscula, inæqualiter remoteque dentata, venoso-rugosa, subtus pallidiora, pilosiuscula, foliolium terminale trilobatum; Folia suprema floralia trifida, et subsimplicia.

FLORES subcorymbosi terminales, albido-carnei, odore singulari præditi; PEDUNCULI ramossissimi, multoties dichotomi.

BRACTEÆ lanceolatae, acuminatae, connatae, albentes, nervo viridi.

CALYX nullus, margo superus minutus, fig. 1.

COROLLA tubulosa, tubo a latere inferiore nectarifero, gibbo, fig. 2. Limbo quinquefido, laciniis obtusis, fig. 3.

STAMINA: FILAMENTA tria, erecta, Corollâ longiora, amisso polline recurvantia; ANTHERÆ subrotundæ, floribus concolores, fig. 4.

PISTILLUM: GERMEN conicum, inferum; STYLUS filiformis, longitudine flaminum; STIGMA crassiusculum, obtusum, album, trifidum, fig. 5.

SEMINA solitaria, ovato-oblonga, compressa; Pappus radiis duodecim plumosis, basi purpurascens, fig. 6.

ROOT perennial, somewhat flumped, fibrous, fibres numerous, large, sending out from its crown one or more long-extended creeping shoots.

STALK from one to three feet or more in height, upright, round, grooved, hollow, in some parts hairy, terminating in flowering branches disposed crosswise.

LEAVES opposite, connate, bearded at the base on the under side, pinnated; the Midrib somewhat downy; the Leaflets or Pinnæ 11 to 13, sometimes opposite, sometimes alternate, slightly decurrent, lanceolate-oblong, rather pointed, unevenly and distantly toothed, veiny, wrinkled, paler on the under side, slightly hairy; the terminating Leaflet three-lobed; the uppermost leaves on the flowering branches trifid, and sometimes entire.

FLOWERS growing in a kind of corymbus, terminal, of a pale flesh colour, and singular smell; FLOWER-STALKS much branched, and many times divided.

FLORAL-LEAVES, lanceolate, acuminate, connate, whitish, with a green midrib.

CALYX none, a slight margin on the top of the Germen, fig. 1.

COROLLA tubular, the tube producing from its lower side a gibbous nectary, fig. 2. the Limb divided into five obtuse segments, fig. 3.

STAMINA: three upright FILAMENTS, longer than the Corolla, bending back when the antheræ have shed their pollen; ANTHERÆ roundish, of the same colour as the flowers, fig. 4.

PISTILLUM: the GERMEN conic, beneath the Corolla, STYLE thread-shaped, the length of the stamina; STIGMA thickish, obtuse, white, and trifid, fig. 5.

SEEDS single, ovato-oblong, compressed, furnished with a Pappus having twelve feathery rays, of a purplish colour at the base, fig. 6.

The *Valeriana officinalis* here figured, grows wild with us in wet situations only, it more especially is found on the edges of wet ditches, often in osier-grounds, and in such situations is very common in most of the Southern parts of Great-Britain; sometimes, particularly in the Northern parts of the kingdom, it is found on more elevated and drier ground, where it becomes in every respect smaller, and more hairy; in such situations the roots are found to possess more fragrance, and are considered as preferable for medicinal purposes.

The flowers, when fresh, diffuse a peculiar kind of odour, almost too strong to be pleasant; the powerful smell of the dried root is known to most persons, and of this part of the plant cats are remarkably fond, not only eating it, but when they have an opportunity, perfuming themselves by rolling on it, and that on the fresh as well as dried roots; for I have often observed, that as the roots spread out near the surface of the ground, they find them out, and in gratifying their passion frequently destroy the plant in gardens; whenever they are insufferably mischievous in this or other respects, they may with certainty be caught in a wooden hutch trap, baited with Valerian root; we are not however wantonly to sacrifice this useful animal.

The *officinalis*, as well as some of the other species of Valerian, is very ornamental, but almost too large for the flower-garden, unless it be an extensive one; it flowers in June and July, and is easily cultivated, as it has creeping roots, which for medicinal purposes should be taken up early in the spring and carefully dried.

The mountain Valerian root has a strong, not agreeable smell, and an unpleasant, warm, bitterish, subacid taste; the strength of the smell and taste is the only mark to be depended on of its genuineness, and goodness. It is a medicine of great esteem in the present practice against obstinate hemicranæ, hysterical and the different kinds of nervous disorders, and is commonly looked upon as one of the principal antispasmodics. COLUMNA reports, that he was cured by it of an inveterate epilepsy, after many other medicines had been used in vain: on more extensive trials it has been found, in some epileptic cases to effect a cure, in several to abate the violence or frequency of the fits, and in many to prove entirely ineffectual: oftentimes, it either purges, or operates by sweat, or by urine, or brings away worms before it prevents a fit. The dose of the root in powder is from a scruple to a dram or two, which may be repeated if the stomach will bear it, two or three times a day. A remarkable instance of its efficacy in a Catalepsy is given by Mr. MUDGE: doses of half an ounce of the powder were exhibited twice a day, and a less quantity was found ineffectual.—Among the materials I have made trial of for covering its flavour, mace seemed to answer the best. *Lewis's Mat. Med. ed. Aik. p. 659.*

Dr. CULLEN considers it as an antispasmodic medicine of considerable efficacy, but observes, that he has frequently found it inefficacious, which he attributes partly to the best remedies failing in diseases which depend on a diversity of causes, and partly to the roots being employed in an improper condition; he is of opinion that it should be given in larger doses than is commonly done.





Valeriana dioica.

VALERIANA DIOICA.

MARSH VALERIAN.

VALERIANA *Linnaei Gen. Plant.* TRIANDRIA MONOGYNIA.

Cal. o Cor. 1. petala, basi hinc gibba, supera. Sem. 1.

VALERIANA *dioica* floribus triandris dioicis foliis pinnatis integerrimis. *Lin. Syst. Vegetab. Sp. Pl. p. 44. Fl. Suec. n. 35.*

VALERIANA foliis radicalibus petiolatis ovatis; caulinis pinnatis, sexu distincta. *Haller. hist. 208.*

VALERIANA *dioica. Scopoli Fl. Carn. n. 40.*

VALERIANA palustris minor. *Baubin. p. 164.*

VALERIANA minor. *Ger. em. 1075.*

VALERIANA sylvestris minor. *Park. 122.*

Raii Syn. p. 200. Small wild Valerian, or Marsh Valerian. Hudson. Fl. Angl. ed. 2. p. 12. Lightfoot Fl. Scot. p. 85.

RADIX perennis, geniculata, repens, crassitie pennæ coracis, albida, rubore aliquando tincta, odore subaromatico valerianæ sylvestris.

CAULIS pedalis aut sesquipedalis, erectus, simplex, tetragonus, striatus, lævis; rami pauci, striati.

FOLIA opposita, radicalia integerrima, ovata, obtusa, caulina pauca, pinnatifida, pinnis duodecim circiter, venosis, obtuse ferratis.

FLORES subcorymbosi, rubelli, dioici, femineis multo minoribus. *fig. 1. flor. femin. magn. nat. fig. 2. flor. masc.*

BRACTEÆ plurimæ, lanceolatae, floribus subjectæ.

FLOS FEMIN.

CALYX vix ullus, margo superus. *fig. 7.*

COROLLA monopetala, tubus a latere inferiore gibbus, nectariferus; limbus quiquefidus, laciniis obtusis, subæqualibus; antherarum rudimenta intra tubum cernantur.

PISTILLUM: GERMEN inferum, ovatum, compressum, sulcatum, longitudine fere corollæ; STYLUS albus, superne paulo incrassatus, corolla paulo longior, obliquus; STIGMA trifidum. *fig. 6, 7, 8, 9.*

SEMEN ovato-oblongum, pallide fuscum, hinc carinatum, illinc trinerve, pappo piloso coronatum. *fig. 11, 12, 13.*

FLOS MASC.

CALYX et corolla sicut in fem. *fig. 2.*

STAMINA: FILAMENTA tria, filiformia, corolla longiora; ANTHERÆ albæ; seu pallide rubentes, *fig. 5. Pistillum imperfectum in centro floris. fig. 10.*

ROOT perennial, jointed, creeping, the thickness of a crow-quill, white, sometimes tinged with red, having nearly the same aromatic smell as the wild valerian.

STALK a foot, or a foot and a half high, upright, unbranched, four-cornered, striated and smooth; branches, few and striated.

LEAVES opposite, the radical ones entire, ovate, obtuse, those of the stalk few, pinnatifid, pinnæ about twelve in number, veiny, and obtusely serrated.

FLOWERS forming a kind of corymbus, of a pink colour, and dioicous, the female flowers much the smallest. *fig. 1. a female flower of its natural size. fig. 2. a male flower.*

BRACTEÆ numerous, lanceolate, placed beneath the flowers.

FEMALE FLOWER.

CALYX scarce any, being only a prominent rim surrounding the top of the germen. *fig. 7.*

COROLLA monopetalous, the tube gibbous on the under side, and containing honey; the limb divided into five segments, which are blunt and nearly equal; rudiments of Antheræ are visible within the tube. *fig. 1.*

PISTILLUM: GERMEN placed below the corolla, ovate, flat, grooved, nearly the length of the corolla; STYLE white, somewhat thickened near the top, a little longer than the corolla, oblique; STIGMA trifid. *fig. 6, 7, 8, 9.*

SEED of an ovate oblong shape, and pale brown colour, a single rib on one side, and three on the other, crowned with a feathery down, *fig. 11, 12, 13.*

MALE FLOWER.

CALYX and corolla the same as in the female. *fig. 2.*

STAMINA: three FILAMENTS filiform, longer than the corolla; ANTHERÆ white, or pale red, *fig. 5. an imperfect Pistillum in the center of each flower. fig. 10.*

There are few plants in which nature sports more than in the Valerians, even out of the *four* species which we have growing wild with us, *one* is monandrous, viz. the *rubra*, and *another* dioicous as the present. These deficiencies in their classical character are however the less to be lamented, as they furnish excellent specific distinctions.

The *dioica* is found only in wet and boggy situations; in the meadows and osier-grounds about *Battersea* it grows abundantly; its blossoms before they open are of a bright red colour, and being collected into small heads, are very conspicuous among the herbage in the month of April; in June and July it produces its downy seeds, which, for their beauty and singular manner of expanding their pappus or down, are highly deserving the attention of the curious.

The roots having a similar smell, and probably the same medicinal virtues, as the officinal Valerian, may be substituted in lieu thereof, if necessary.

What SCOPOLI asserts of this plant is so contrary to the common opinion of botanists and our own observations, that we cannot forbear transcribing his own words; they will either prove that his observations are not to be depended upon, or that this plant puts on a very different appearance in *Carniola* than it does in the other parts of *Europe*.

“*Millena specimina examinavi et nunquam vidi flores dioicos, sed nunc omnes hermaphroditos, nunc filamento uno aliove castrato instructos, nunc masculos et femineos in eadem planta, ita tamen ut masculi flores continerent rudimentum germinis et styli; sine feminibus vero perfectis nullam hactenus inveni plantam.*”







Valeriana Locusta

VALERIANA LOCUSTA. CORN SALLAD.

VALERIANA *Lin. Gen. Pl.* TRIANDRIA MONOGYNIA.

Cal. 0. *Cor.* 1-petala, basi hinc gibba, supera. *Sem.* 1.

VALERIANA *Locusta* floribus triandris, caule dichotomo, foliis linearibus. *Lin. Syst. Vegetab.* p. 73. *Sp. Pl.* p. 47. *Fl. Succ. n.* 36.

VALERIANA foliis oblongis, rariter incis, corona feminis simplici, acuminata. *Haller Hist.* 214.

VALERIANA *Locusta.* *Scopoli Fl. Carn. n.* 46.

VALERIANA campestris inodora major. *Baub. Pin.* 165.

VALERIANELLA arvensis præcox humilis femine compresso. *Mor. Umb.*

LACTUCA agnina. *Ger. emac.* 310. *Park.* 812. *Raii Syn.* p. 201. Lamb's-Lettuce or Corn-Sallet. *Hudson. Fl. Angl. ed. 2. p.* 13. *Lightfoot Fl. Scot. p.* 85.

RADIX annua, fibrosa, pallide fusca.

CAULIS erectus, spithamæus, pedalis et ultra, pro ratione loci, teres, angulato-striatus, subpubescens, tener, ad unum latus sæpius purpurascens, dichotomus.

FOLIA radicalia, plurima, patentiuscula, subsucculenta, glabra, venosa, subrugosa, obovata, obsolete dentata, caulina opposita, sessilia, remota, ad basin præsertim ciliata, suberecta, suprema subserrata.

FLORES minimi, cœrulescentes, corymbosi.

CALYX nullus.

COROLLA longitudine germinis, tubulosa, subviolacea, quinquefida, laciniis rotundatis, patentibus, subæqualibus, fig. 1.

STAMINA: FILAMENTA tria, alba, longitudine corollæ. ANTHERÆ parvæ, albæ, fig. 2.

PISTILLUM: GERMEN inferum, nudum, majusculum, obovatum, viride, utrinque lineâ exaratum, hinc convexum, subgibbosum, inde planiusculum, fig. 4. STYLUS staminibus paulo brevior. STIGMA trifidum, fig. 3.

SEMINA plurima, nuda, pallide fusca, subrotunda, acutiuscula, parum compressa, transversim rugosa, fig. 5.

ROOT annual, fibrous, of a pale brown colour.

STALK upright, from four inches to a foot or more in height, according to its place of growth, round, grooved or angular, slightly downy, tender, usually purplish on one side, dichotomous.

LEAVES next the root numerous, somewhat spreading, slightly succulent, smooth, veiny, a little wrinkled, inversely ovate, faintly toothed, those of the stalk opposite, sessile, remote, at the base particularly, edged with hairs, somewhat upright, the uppermost ones slightly serrated.

FLOWERS very minute, of a blueish colour, growing in a corymbus.

CALYX wanting.

COROLLA the length of the germen, tubular, faintly violet-coloured, divided into five segments, which are roundish, spreading, and nearly equal, fig. 1.

STAMINA: three FILAMENTS of a white colour, the length of the corolla. ANTHERÆ small and white, fig. 2.

PISTILLUM: GERMEN placed below the corolla, naked, rather large, inversely ovate, green, having a narrow groove on each side, convex and somewhat gibbous on one side, flattish on the other, fig. 4. STYLE a little shorter than the stamina. STIGMA trifid, fig. 3.

SEEDS numerous, naked, of a pale brown colour, roundish, a little pointed, somewhat flattened, and transversely wrinkled, fig. 5.

In treating of the *Valeriana dioica* we had occasion to notice the extreme inconstancy of the fructification in this genus; an inconstancy scarcely to be paralleled in any other tribe, and affecting not only the Linnæan system, as depending on number of stamina, but such systems also as may be founded on the form of the corolla, or structure of the seed. In the *officinalis*, *dioica*, and several other valerians, the seeds are furnished with a pappus or down, here they are altogether naked.

The present plant is a well known culinary one; the radical leaves are in general use in the spring to mix with other sallad herbs, and sometimes eaten alone: the French call them *Salad de Preter*, from their being generally eaten in Lent.

It grows wild in corn-fields, on walls, banks, and in gardens. In corn-fields it is usually very small, grows with a single stem, and often occurs with diseased heads, occasioned by some insect. The leaves are sometimes more than usually serrated. A variety of this sort is made a species of by RAY. There are several other varieties mentioned by LINNÆUS in his *Species Plantarum*, which have not come under our observation.

It flowers in May, and ripens its seed in June.

✓





Iris Pseudacorus.

IRIS PSEUDACORUS. YELLOW IRIS.

IRIS *Lin. Gen. Pl.* TRIANDRIA MONOGYNIA

Cor. Limbo 4. partito: *Petalis* alternis reflexis. *Stigmata* petaliformia.

Raii. Syn. Gen. 26. HERBÆ RADICE BULBOSA PREDITÆ.

IRIS *Pseudacorus* corollis imberbibus, petalis interioribus stigmatibus minoribus, foliis ensiformibus. *Lin.*

Syst. Vegetab. p. 79. *Sp. Pl. p.* 56. *Fl. Suec. n.* 37.

IRIS caule inflexo, foliis ensiformibus; petalis erectis, minimis, reflexis, imberbibus. *Haller Hist. n.* 1260.

IRIS *Pseudacorus. Scopoli. Fl. Carn. n.* 49.

IRIS palustris lutea. *Ger. em.* 50.

ACORUS adulterinus. *Bauh. pin.* 74.

ACORUS palustris, five Pseudo-iris et Iris lutea palustris. *Park* 1219. *Raii. Syn. p.* 174. Yellow water Flower-de-luce.

Hudson. Fl. Angl. ed. 2. p. 14. *Lightfoot. Fl. Scot. p.* 86. *Oeder. Fl. Dan. t.* 404.

RADIX perennis, crassitie pollicis, horizontalis, foris nigricans, intus rubicundus, spongiosus, superne plurimis fibrillis rigidis oblecta, inferne dimittens radículas longas, albidas, rugosas.

FOLIA radicalia, bi aut tripedalia, erecta, lata, ensiformia, nervo eminente, basi equitantia, caulina breviora, alterna, basi vaginantia.

CAULIS pedalis ad tripedalem, erectus, e geniculo ad geniculum alterne inclinatus, teres, lævis, spongiosus.

FLORES erecti, speciosi, flavi.

PEDUNCULI axillares, semiteretes, glabri.

CALYX: SPATHA biflora aut triflora, bivalvis, trivalvis aut quadrivalvis secundum numerum florum.

COROLLA sexpartita; PETALA tria exteriora ampla, ovato rotundata, reflexa, lineis rubris seu ex rubro-fuscis ad basin laminæ picta, ad basin unguis biforaminosa, tria interiora primo erecta, cito inflexa, stigmatibus breviora, oblonga, basi angustata, intus cava. *fig.* 1. 2.

STAMINA: FILAMENTA tria, subulata, compressa; ANTHERÆ oblongæ, luteæ, marginibus purpurascentibus, ab incumbente stigmatibus in arcum depressæ, biloculares, loculæ lineares, inferne dehiscentes, *fig.* 3.

PISTILLUM: GERMEN inferum, oblongum, trigonum, angulis obtusis fulcatis; STYLUS tenuis, germine brevior; STIGMA maximum, tripartitum, flavum, laciniis oblongis, superne carinatis, inferne concavis apice trifidis, venosis, ferrulatis, segmento medio brevissimo, infero. *fig.* 4. 5. 6.

PERICARPIUM: CAPSULA oblonga, angulata, trilocularis, trivalvis. *fig.* 7.

STAMINA plurima, magna, flavescencia, utrinque compressa. *fig.* 8.

ROOT perennial, the thickness of ones thumb, horizontal, externally blackish, reddish with-inside, and spongy, the upper part covered with numerous rigid fibres, its lower part sending down many long, whitish, wrinkled, stringy roots.

LEAVES from the root, two or three feet high, upright, broad, sword-shaped, with a prominent midrib, at bottom riding one on another and covered with a glutinous substance, those on the stalk shorter, alternate, forming a sheath at the bottom.

STALKS from one to three feet in height, upright, alternately inclined from joint to joint, round, smooth, and spongy.

FLOWERS upright, showy, of a yellow colour.

FLOWER-STALKS proceeding from the axils of the leaves, round, but flattened on one side and smooth.

CALYX, a SPATHA containing two or three flowers, of two, three, or four valves according to the number of flowers.

COROLLA deeply divided into six segments: the three outermost segments or PETALS large, of a roundish oval shape, turning back, painted at the base of the broad part with lines of a reddish brown colour, and at the bottom of the claw or narrow part having the appearance of two small holes. *fig.* 1. 2.

STAMINA: three FILAMENTS flat and tapering; ANTHERÆ oblong, yellow, edges purplish, bent down by the stigma pressing on them, having two cavities which are linear and open on the under side. *fig.* 3.

PISTILLUM: GERMEN placed below the corolla, three cornered, the angles blunt and grooved; STYLE slender, shorter than the stigma; STIGMA very large, deeply divided into three segments, of a yellow colour, the segments oblong, above keel-shaped, below concave, at the top veiny, sawed at the edge and subdivided into three segments of which the middle one is very short and placed underneath. *fig.* 4. 5. 6.

SEED-VESSEL an oblong, angular CAPSULE, of three cavities and three valves. *fig.* 7.

SEEDS numerous, large, of a yellowish colour and flattened on both sides. *fig.* 8.

MANY of the plants of this tribe recommend themselves to our notice by the beauty and delicacy of their blossoms, some by their medicinal, and others by their oeconomic uses; the present plant may perhaps put in its claim on each of these accounts, and though its flowers may not possess the fragrance so grateful in the *Iris persica*, the magnificence which astonishes in the *susiana*, or the variety of colours which glow in the *versicolor*, yet those who have examined its structure must allow it to be at once beautiful, delicate, and singularly curious; the Stigma in particular deserves to be noticed by the Student, being in form and substance more like the petals than the part it really is.

As to its medicinal powers—the root is without smell, viscid, and of a sweetish taste, its infusion and decoction at first very sweet, then highly astringent, presently producing a sense of heat in the throat, which continued with me for more than twelve hours. *Rutty Mat Med.*

An infusion of it became black on the addition of Vitriol of iron. *id.*

In drying it loses much of its acrimony. *id.*

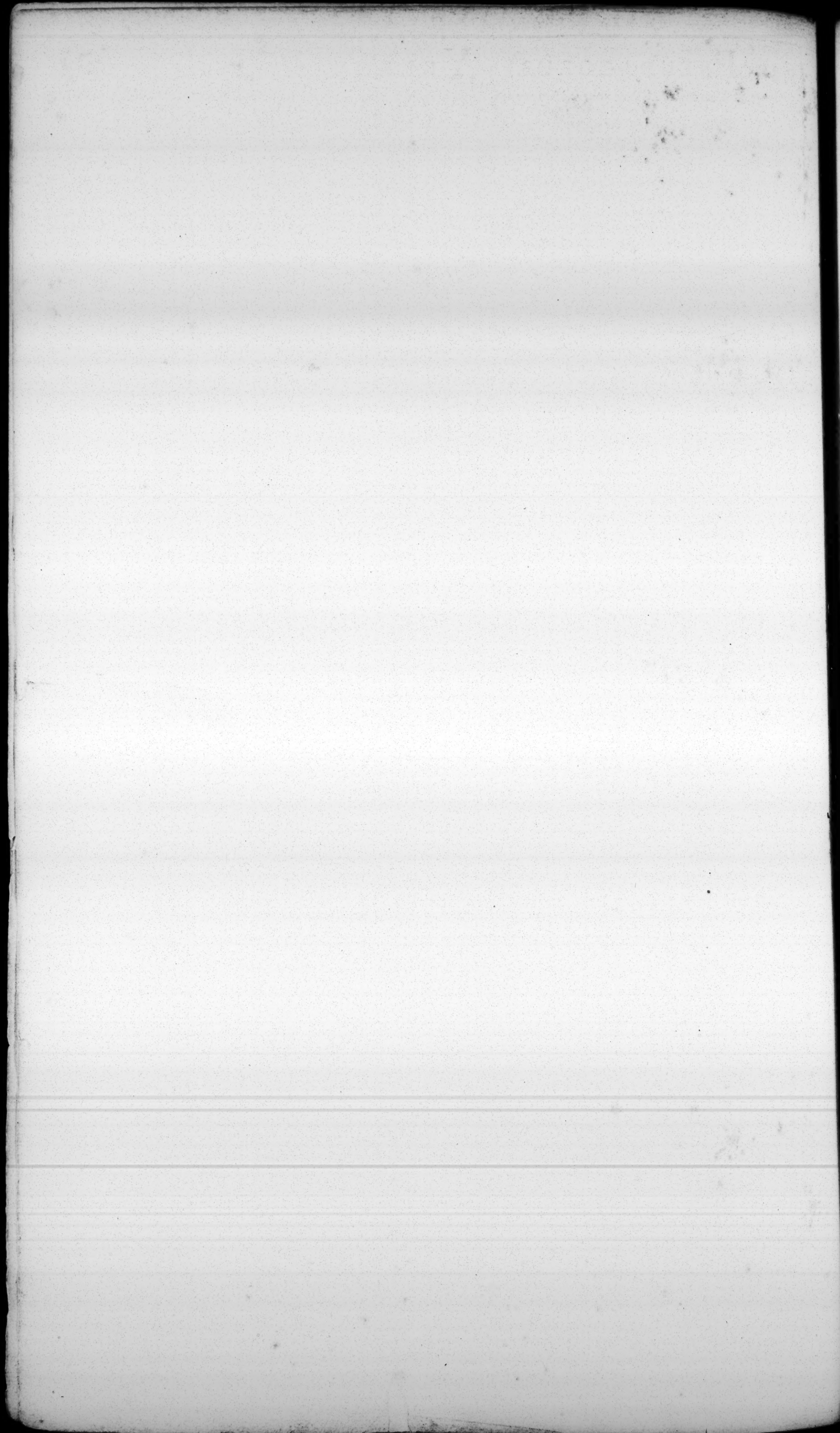
Cut into the form of pease it is useful to destroy the proud flesh in issues, and promotes their discharge. *id.*

The juice has been used to promote sneezing, but being highly acrimonious of itself, a few drops of it mixed with milk has been used to produce that effect in the tooth-ach. *id.*

The juice of the root has also been recommended to be applied to creeping ulcers, and being considered as possessing considerable astringent powers, it has been administered in fluxes but very injudiciously according to some modern experiments made with it, (*vid Edinburg Med. Essays*) by which it was found that eighty drops of this juice repeated every hour or two, proved an excellent purgative where Jalap and Gamboge had in vain been exhibited. On the whole it appears to be a violent medicine, and to be used with great caution. The only account we have of its oeconomic uses is, that an infusion or decoction of it like that of galls and other vegetable astringents is capable with the addition of iron of being converted into ink, or of dying black, to both of which purposes it has long been applied in Scotland and the adjacent Isles. *Sibbald. Lightfoot.*

It is a very common plant in marshy meadows, by the sides of rivers, ponds, &c. and flowers in the beginning of July.

Planted in the garden where the soil is moist, it encreases exceedingly both by root and seeds.







Scirpus maritimus.

SCIRPUS MARITIMUS. ROUND-ROOTED OR SEA CLUB-RUSH.

SCIRPUS *Lin. Gen. Pl.* TRIANDRIA MONOGYNIA.

Glumæ paleaceæ, undique imbricatæ. *Cor.* 6. *Sem.* 1 imberbe.

Raii Syn. Gen. 28. HERBÆ GRAMINIFOLIÆ FLORE NON CULMIFERÆ IMPERFECTO SEX STAMINEO.

SCIRPUS *maritimus* culmo triquetro, panicula conglobata foliacea spicularum squamis trifidis: intermedia subulata. *Lin. Syst. Vegetab.* p. 86. *Sp. Pl.* p. 74. *Fl. Suec.* n. 47.

SCIRPUS *maritimus.* *Scopoli Fl. Carn.* n. 57.

GRAMEN cyperoides panicula sparsa majus. *Bauh. pin.* 6.

GRAMEN cyperoides palustre panicula sparsa. *Parkins.* 1266. *Raii Syn.* p. 425. Water or Marsh Cyperus Grass, with a sparsed panicle.

CYPERUS rotundus littoreus inodorus. *Lob. ic.* 77. rotundus inodorus Anglicus. *C. B. Pin.* 14. rotundus littoreus. *Ger. em.* 31. *Park.* 1264. *Raii Syn.* p. 426. Round-rooted Bastard Cyperus. *Hudson. Fl. Anglic.* p. 21. *Lightfoot Fl. Scot.* p. 89.

RADIX perennis, repens, crassitie calami scriptorii, pallide fusca, stolonibus sub finem anni apice bulbosis.

CULMUS bi seu tripedalis, erectus, foliosus, triquetus, angulis subasperis.

FOLIA plurima, septem sive octo, pedalia aut sesquipedalia, lineas duas lata, sensim acuminata, ad carinam et oras vix aspera, basi vaginata, vagina minutissime striata, nitida.

INVOLUCRUM: folia plerumque duo, rarius tria, inæqualia, longa, ad oras et carinam aspera.

PANICULA terminalis, maxime varia, aliquando enim constat spiculis quinque vel sex conglobatis sessilibus, sæpius vero præter has utrinque oritur pedunculus, tres quatuor vel quinque gerens spiculas.

PEDUNCULI glabri, nudi ad spiculas subincrassati.

SPICULÆ magnæ, unciales fere, ovatæ; acutæ, primo atro purpureæ, demum ferrugineæ, squamis undique imbricatæ.

CALYX: *Squamæ* fuscae, corrugatæ, scariosæ, carinatæ, apice sæpius tridentatæ, dente medio subulato, in infimis flosculis longiore. *fig.* 1. 2.

COROLLA nulla.

STAMINA: FILAMENTA tria, alba, latiuscula. ANTHERÆ, flavæ, lineares, membrana alba minuta terminatæ. *fig.* 3.

PISTILLUM: GERMEN obovatum, minimum, glabrum. STYLUS subulatus, longitudine staminum. STIGMATA tria, capillaria. *fig.* 4.

VILLI quatuor aut quinque, ad basin germinis, albi, erecti ad lentem retrorsum aculeati, germini longiores. *fig.* 5.

SEMEN unicum, subtriquetrum, acuminatum, fuscum, nitidum. *fig.* 6.

ROOT perennial, creeping, the thickness of a goose-quill, of a pale brown colour, the shoots at the end of the year bulbous at their extremities.

STALK two or three feet high, upright, leafy, three-cornered, the angles somewhat rough.

LEAVES numerous, seven or eight, a foot or a foot and a half in length, two lines in breadth, gradually tapering to a point, the keel and edges scarcely rough, forming a sheath at bottom, which is striated and glossy.

INVOLUCRUM consists generally of two, rarely of three leaves, which are long, unequal and rough on the edges and keel.

PANICLE terminal, and extremely various, sometimes it consists of only five or six clustered spiculæ, but for the most part, besides these, a flower-stalk arises on each side, bearing three, four, or five spiculæ more.

FLOWER-STALKS smooth, naked, somewhat thickened at the spiculæ.

SPICULÆ large, almost an inch in length, ovate, pointed, at first of a blackish purple colour, afterwards ferruginous, covered with scales on every side.

CALYX: *Scales* brown, wrinkled, sonorous to the touch, keeled, having the tip generally furnished with three teeth, of which the middle one runs out to a long point, in the lowermost flowers this is longest. *fig.* 1. 2.

COROLLA wanting.

STAMINA: three FILAMENTS, white and broadish. ANTHERÆ yellow, linear, tipped with a minute white membrane. *fig.* 3.

PISTILLUM: GERMEN inversely ovate, very small and smooth. STYLE tapering, the length of the stamens. STIGMATA three, capillary. *fig.* 4.

HAIRS four or five at the base of the germen, white, upright, when magnified having prickles which crook backward, longer than the germen. *fig.* 5.

SEED single, somewhat three-cornered, pointed, brown, and shining. *fig.* 6.

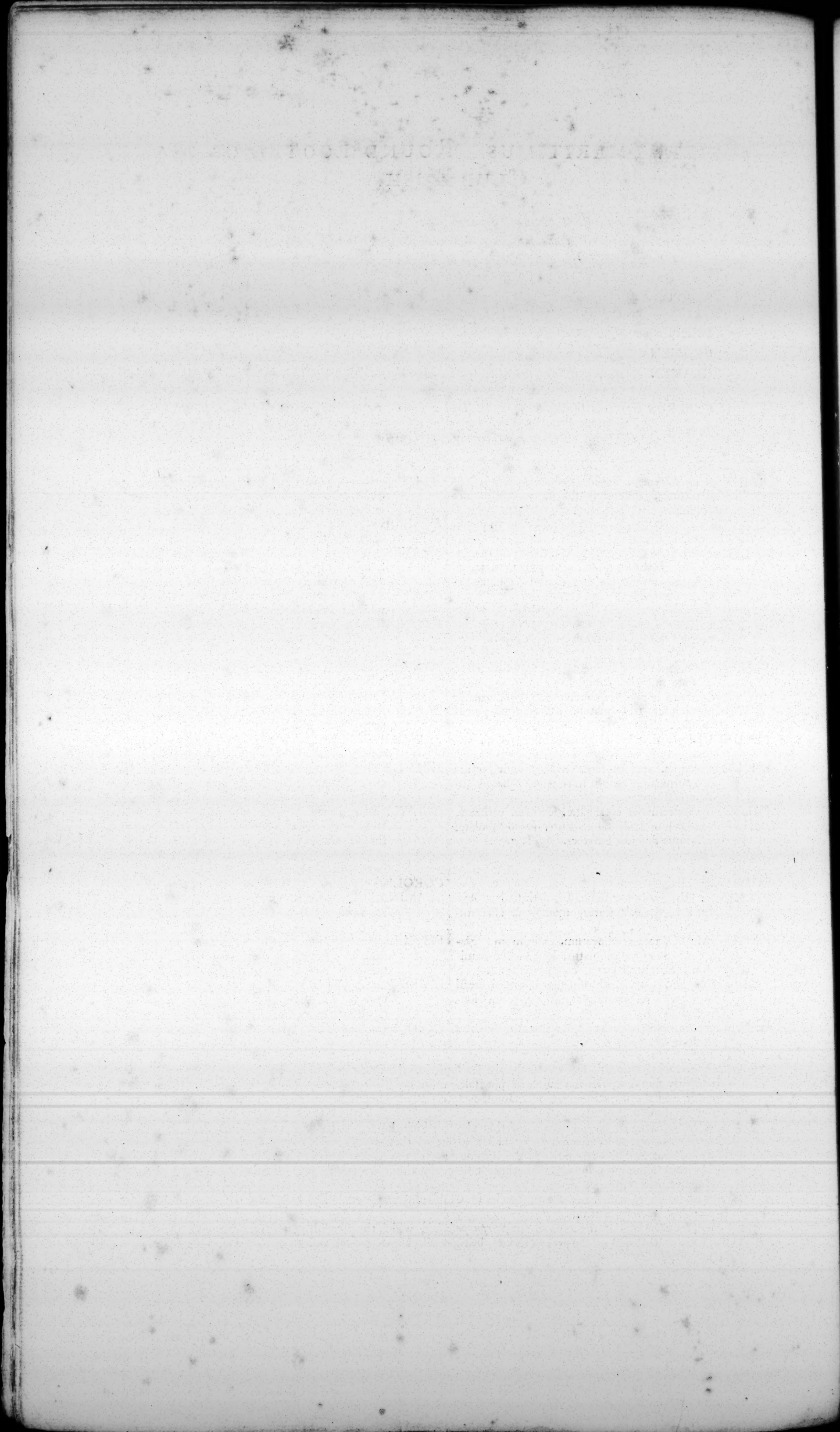
LINNÆUS remarks, that this species cloaths the sea-shores as the Bulrush does the borders of the inland lakes; but it is frequently found where the water is not salt, as in the river *Thames*; and on the edges of the creeks running from it. In the *Ile of Shepey* it fills almost every ditch, and appears to be more perfectly at home.

It flowers from June to August.

The older Botanists made several species of this plant, which LINNÆUS has very properly referred to varieties only. They did not attend to the æconomy of the plant, or they would have found, that the roots, in every variety, were bulbous at the extremities in the autumn, nor to the circumstances of situation, &c. or they would have seen this plant sometimes shorter, sometimes taller, sometimes with a simple, sometimes with a branched panicle as is represented on the plate.

We know of no use to which this elegant species of Club-rush is applied. The roots have a remarkably sweet taste, and probably are very nutritious.

Swine are extremely fond of the roots of the *Scirpus palustris*, which the Swedish peasants collect and fodder them with in the winter: the roots of the present species, being much larger, would we conceive be much preferable for this or similar purposes.







Eriophorum polystachion.

Eriophorum polytachion. Many-Headed Cotton-Grafs.

ERIOPHORUM *Lin. Gen. Pl.* TRIANDRIA MONOGYNIA.

Glumæ paleaceæ, undique imbricatæ. *Cor. o. Sem. 1. Lanâ* longissimâ cinctum.

Raii. Syn. Gen. 23. HERBÆ GRAMINIFOLIÆ NON CULMIFERÆ FLORE IMPERFECTO SEU STAMINEO.

ERIOPHORUM *polytachion* culmis teretibus, foliis planis, spicis pedunculatis. *Lin. Syst. Vegetab. p. 87. Sp. Pl. p. 76. Fl. Suec. n. 49.*

ERIOPHORUM foliis planis, spicis pendulis. *Haller. bist. n. 1331.*

LINAGROSTIS *polytachia. Scopoli. Fl. Carn. n. 66.*

GRAMEN pratense tomentosum panicula sparsa. *C. B. Pin. 4.*

GRAMEN tomentarium. *Ger. emac. 29.*

GRAMEN junceum lanatum, vel juncus bombycinus vulgaris. *Park. 1271. Scheuchz. Agroft. ed. Haller. p. 306. Vaill. Bot. Paris. t. 16. f. 1. 2. Raii Syn. p. 433. Cotton-grafs.*

Lightfoot Fl. Scot. p. 89.

Hudson Fl. Angl. ed. p. 21.

RADIX perennis, repens, fusca, seu castanei coloris, fibrillis plurimis albis, aut rubentibus instructa.

CULMUS sæpius solitarius, dodrantalis, seu pedalis, et ultra, erectus, teres, lævis, geniculis duobus parum extantibus plerumque notatus, vaginis foliorum per totam longitudinem tectus.

FOLIA ima marcida, castanea, brevia, lanceolata, striato-reticulata; superiora basi sua arcu culmum amplectentia, lineas duas ad tres lata, spithamæ et ultra, sensim attenuata, sæpe præmorsa, hinc convexa, inde concava, glabra; suprema planiora, multo breviora, et manifeste carinata; vaginæ foliorum culmi, æquali ubique fere magnitudine, ubi folium exit paulo laxiores, et fissurâ membranâ impleta notatæ.

BRACTEÆ tres aut quatuor, longitudine inæquales, basi vaginantes, culmum terminant, e quarum sinibus spiculæ prodeunt.

SPICULÆ plerumque plures a duabus ad septem, ovata, immaturæ erectæ, per ætatem pendulæ.

CALYX: spica undique imbricata: squamis ovato oblongis, plano-inflexis, membranaceis, laxis, acuminatis, flores distinguuntibus. *fig. 1.*

COROLLA nulla.

STAMINA: FILAMENTA tria, capillaria; ANTHERÆ erectæ, oblongæ. *fig. 2.*

PISTILLUM: GERMEN minimum; STYLUS filiformis, longitudine squamæ calycis; STIGMATA tria, stylo longiora, reflexa. *fig. 3.*

PERICARPIUM nullum.

SEMEN triquetrum, acuminatum, nigrum, villis spicâ longioribus instructum. *fig. 4. 5. 6. 7.*

ROOT perennial, creeping, of a brown or chestnut colour, furnished with numerous white or reddish fibres.

STALK for the most part solitary, from nine inches to a foot or more in height, upright, round, smooth, for the most part furnished with two joints which project a little, covered throughout its whole length with the sheaths of the leaves.

LEAVES next the root withered, of a chestnut colour, short, lanceolate, striated, and marked with short transverse lines, which give them a reticulated appearance, the succeeding leaves, at their base closely embracing the stalk, from two to three lines in breadth, about seven inches or more in length, gradually tapering to the extremity, where they are often bit off, convex on one side, concave on the other, and smooth, the uppermost leaves flatter, much shorter, and manifestly keeled; sheaths of the leaves nearly of an equal thickness throughout, where a leaf goes off more loosely connected, and marked with a fissure filled by a membrane.

FLORAL-LEAVES three or four of unequal lengths, forming sheaths at bottom terminate the stalk, from the apex of which the spiculæ proceed.

SPICULÆ for the most part several, from two to seven, ovate, first upright, afterwards pendulous.

CALYX: a spike covered on all sides with imbricated squamæ, of an ovate-oblong shape, flat and bent in a little, membranous, loose, running out to a long point, distinguishing the flowers. *fig. 1.*

COROLLA wanting.

STAMINA: three FILAMENTS very fine; ANTHERÆ upright and oblong. *fig. 2.*

PISTILLUM: GERMEN very small; STYLE thread-shaped, the length of the scales of the calyx; STIGMATA three, longer than the style, turned back. *fig. 3.*

SEED-VESSEL none.

SEED three-cornered, pointed, black, furnished with hairs which are longer than the spike. *fig. 4. 5. 6. 7.*

The Genus *Eriophorum* is in a particular manner distinguished from the other genera related to it, by the length of the hairs which envelope the seed; and which, when the seed is ripe, assume the appearance of cotton, whence its name of Cotton-grafs, this cotton is much longer, and produced in greater quantities in the *polytachion*, than in the *vaginatum*; and in Germany, and the more northern countries, has been manufactured into various articles of dress, paper, and wicks for candles. LINNÆUS, in his *Flora lapponica*, informs us, that in some parts of Sweden, the peasants stuff their pillows with it instead of feathers, but that in Lapland, where the plant is sufficiently plentiful, they do not apply it to any such purpose, the skin of the Rein-deer forming the whole of their bed and its furniture.

In the spring, Cattle appear to be very fond of its leaves, as they are generally found cropt, this may arise from the scarcity of herbage at that season of the year, as the plant advances the stems are always left untouched; it is in moors and boggy ground only that this plant is found, and in such situations it is very plentiful; whole acres being often rendered white as snow by it in the months of June and July when in seed.

It flowers in April and May, and may be found in Battersea meadows.





Eriophorum

vaginatum.

Eriophorum vaginatum. Single-headed Cotton-Grafs.

ERIOPHORUM *Lin. Gen. Pl.* TRIANDRIA MONOGYNIA. *Glumæ* paleaceæ, undique imbricatæ. *Cor. o. Sem. 1. Lanâ* longissimâ cinctum.

Raii Syn. Gen. 28. HERBÆ GRAMINIFOLIÆ NON CULMIFERÆ FLORE IMPERFECTO SEU STAMINEO.

ERIOPHORUM *vaginatum* culmis vaginatis teretibus, spica scariofa. *Lin. Syst. Vegetab.* p. 87. *Sp. Pl.* p. 76. *Fl. Suec.* n. 50.

ERIOPHORUM caule tereti, foliis caulinis vaginalibus, spica erecta, ovata. *Haller. hist.* n. 1332.

LINAGROSTIS *vaginata.* *Scopoli Fl. Carn.* n. 66.

JUNCUS alpinus, capitulo lanuginoso, seu schænolaguros. *Baub. pin.* 12. *Scheuch. Agroft.* p. 302. t. 7.

JUNCUS alpinus cum cauda leporina, *Baub. hist.* 2. 514.

GRAMEN juncoides lanatum alterum danicum. *Parkins.* 1271. *Raii Syn.* p. 436. Hares-tail rush.

Lightfoot Fl. Scot. p. 90.

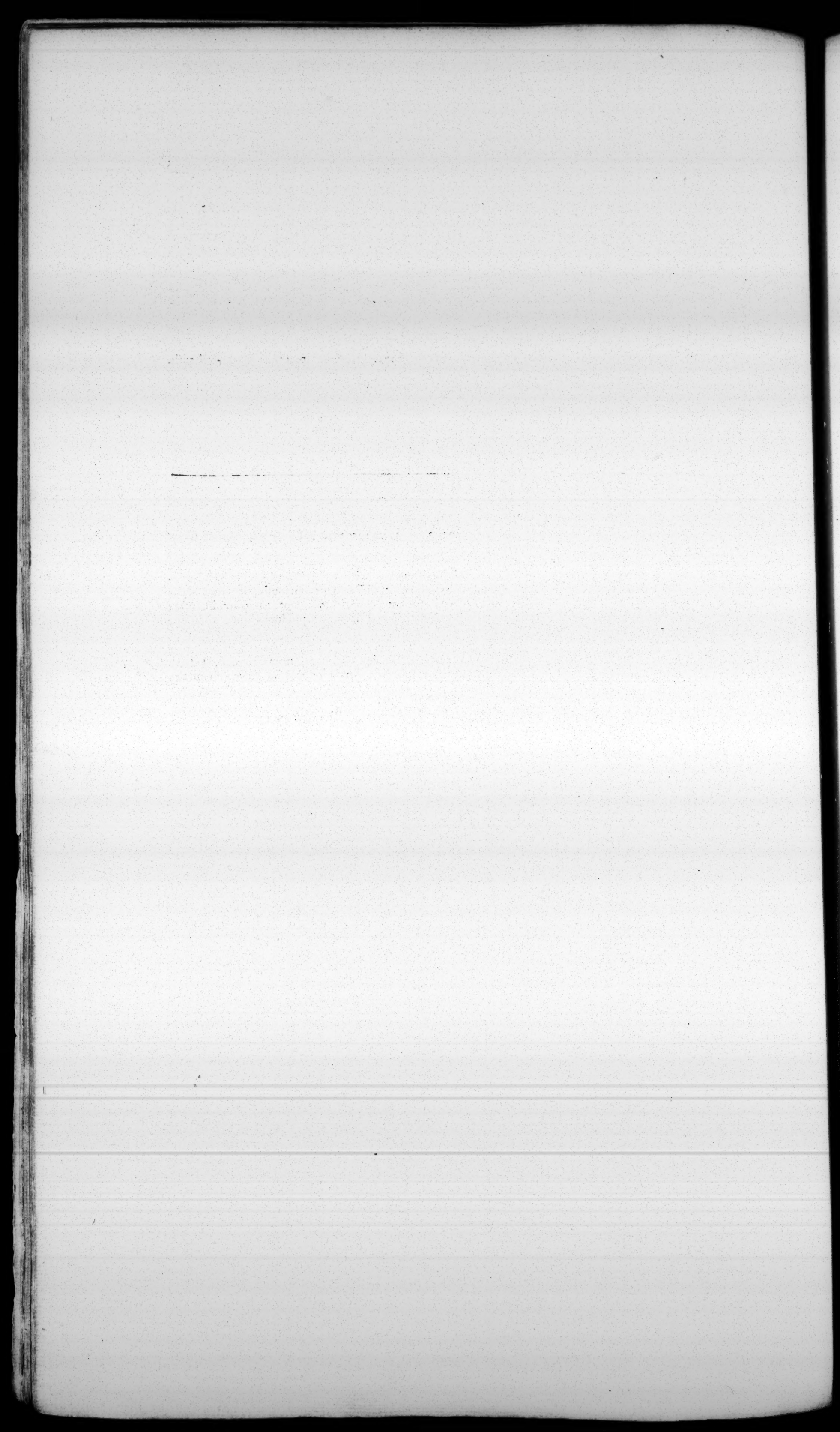
Hudson. Fl. Angl. ed. 2. p. 22.

The *Eriophorum vaginatum* is with us a much scarcer plant than the *polystachion*, but in some parts of *Great Britain*, and in other Countries, is equally common.

In its generic characters, excepting the shortness of its *Pappus*, it agrees with the *polystachion*; it has therefore the same figures of reference to them; in its specific characters, it differs very obviously, its root is not creeping but more matted, and its leaves, which are much finer, are consequently more apt to grow in tufts; the vagina of the upper stem-leaf in particular is remarkably inflated, and it never produces more than one spike, which is upright.

It is found in similar situations to the other; on the boggy parts of Shirley Common, near Croydon, I have found it in tolerable plenty; it flowers somewhat earlier than the *polystachion*, but produces its *pappus* about the same time.

Sheep are very fond of it, whence in Westmoreland they call it Mofs-crops. *Raii. Syn.* p. 436.







Panicum viride.

PANICUM VIRIDE. GREEN PANIC GRASS.

PANICUM *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 3-valvis : valvula tertia minima.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

PANICUM *viride* spica tereti, involucellis bifloris fasciculato-pilosis, seminibus nervosis. *Lin. Syst. Vegetab.* p. 502. *Sp. Pl.* p. 83.

PANICUM spica unica, flosculis sessilibus solitariis, setis numerosis. *Haller. Hist.* n. 1542.

GRAMEN panicum spica simplici. *Baub. Pin.* 8.

GRAMEN panici effigie spica simplici. *Ger. emac.* 17.

GRAMEN panicum spica simplici lævi. *Raii Syn.* p. 393. Panic-Grass, with a single smooth ear. *Hudson Fl. Angl.* ed. 2. p. 24.

RADIX annua, fibrosa.

CULMI erecti, pedales et ultra, simplices, subinde ramosi, quatuor aut quinque geniculis distincti, læves.

FOLIA palmaria et ultra, lineas duas, tres, quatuorve quandoque lata, acuminata, lævia, ad margines aspera, in apricis sæpe sanguinea; foliorum vagina striata, lævis, ad internam foliorum basin, loco membranulæ in pilos subtilissimos lineam dimidiam aut paulo plus longos terminatæ, qui pili etiam quandoque vaginæ margines supremas ipsique foliorum basi proximas occupant.

SPICA simplex, teres, cylindracea, uncialis, sesquuncialis et ultra, crassitie pennæ anserinæ majoris, aliquando tota spadicea vel atro-purpurea, alias ex viridi lutescens, luteis pilis, aliquando rubris donata, dense coagmentatis constans spiculis, molliuscula, vestibibus nequaquam adhærens; setæ seu pili plurimi, erecti, tortuosi, flosculis triplo longiores, ad lentem aculeati, aculeis erectis. *fig. 1. 2.*

CALYX: Gluma uniflora, trivalvis, valvulis duabus oppositis, æqualibus, ovatis, obtusis, nervosis, *fig. 4.* tertia minima, inferne posita. *fig. 3.*

COROLLA: bivalvis, valvulæ ovatæ, concavæ, nitidæ, subæquales. *fig. 5.*

STAMINA: FILAMENTA tria, capillaria, brevissima, corollam paulo excedentia. ANTHERÆ minimæ, purpureæ. *fig. 6.*

PISTILLUM: GERMEN ovatum. STYLI duo, capillares. STIGMATA plumosa, alba. *fig. 7.*

SEMEN unicum, subovatum, tectum, hinc convexum, obsolete nervosum, inde planiusculum. *fig. 8.*

ROOT annual, and fibrous.

STALKS upright, a foot high or more, simple, now and then branched, furnished with four or five joints, and smooth.

LEAVES about a hand's breadth or more in length, two or three lines, and sometimes more, in breadth, pointed, smooth, rough on the edges, in open situations often of a blood-red colour; Sheath of the leaves striated, smooth, terminated at the inner base of the leaf, instead of a membrane, by very fine hairs, about half a line or somewhat more in length, which sometimes also occupy the edges of the sheath on its upper part, and of the leaves at their base.

SPIKE simple, round, cylindrical, an inch, an inch and a half or more in length, the thickness of a large goose quill, sometimes wholly of a reddish purple colour, at others greenish yellow, furnished with yellowish, and sometimes reddish hairs, composed of spiculæ closely compacted, soft to the touch, never adhering to garments; setæ or hairs numerous, upright, crooked, thrice the length of the floscules, when magnified furnished with small prickles, which are upright. *fig. 1. 2.*

CALYX: a Glume of one flower, and three valves, two of which are opposite, equal, ovate, obtuse, and ribbed, *fig. 4.* the third is very minute, and placed below the others. *fig. 3.*

COROLLA composed of two valves, which are ovate, hollow, thinning, and nearly equal. *fig. 5.*

STAMINA: three capillary FILAMENTS, very short, a little longer than the corolla. ANTHERÆ very small, and purple. *fig. 6.*

PISTILLUM: GERMEN ovate. STYLES two, capillary. STIGMATA feathery and white. *fig. 7.*

SEED single, somewhat ovate, covered, convex, and faintly ribbed on one side, on the other flattish. *fig. 8.*

In a former part of this work we gave figures of the *Panicum crusgalli* and *sanguinale*: we here present our readers with two more, being the whole of this genus growing near London.

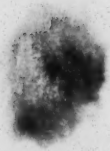
The *viride* is with us the most common of the four; yet at a distance from town it appears to have few habitats. Mr. HUDSON particularizes *Martha's Chapel* near Guildford; *Batersea Fields* is the only place where we find this, and the others, all of which flower about the same period, viz. August and September.

To correspond with its name, the *viride* should be always of a green colour; but we often find its foliage red, and its spikes reddish-brown, and the *verticillatum* vice versa: we are not therefore to look for an infallible guide in its colour, but the spike will always distinguish it from the *verticillatum*. Between these two, indeed, there is a more sensible difference to the touch than betwixt the *Alopecurus pratensis* and *Phleum pratense*; the hairs in the spike of the *viride* are much longer than those of the *verticillatum*, and though the microscope discovers them to be prickly, *vid. fig. 1. 2.* yet these being upright discover no manifest roughness.

Agriculturally it may be considered rather as a weed than an useful grass.

Sparrows are remarkably fond of its seeds: the whole of this genus, when cultivated in a garden, require to be protected from them.







Panicum verticillatum.

PANICUM VERTICILLATUM. ROUGH PANIC GRASS.

PANICUM: *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. trivalvis, valvula tertia minima.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

PANICUM *verticillatum* spica verticillata racemulis quaternis, involucellis unifloris bifetis, culmis diffusis.
Lin. Syst. Vegetab. p. 89. *Sp. Pl.* p. 82.

PANICUM spica unica paniculata, fetis paucioribus. *Haller. Hist.* n. 1543.

GRAMEN paniceum spica aspera. *Baub. Pin.* p. 8.

PANICUM vulgare spica simplici et aspera. *Inst.* 515. *Scheuch. Agrost.* 47. *Raii Syn.* p. 394. Rough-eared Panic-Grass. *Hudson Fl. Angl. ed.* 2. p. 24.

Fig. 1. Racemula ramosa magn. nat.

Fig. 2. Pars ejusdem auct.

Fig. 3. Glumæ calycis auct.

Fig. 4. Corolla.

Fig. 5. Stamina.

Fig. 6. Pistillum.

Fig. 7. Semen magn. nat.

Fig. 8. Idem auct.

Fig. 1. One of the small branched racemi of its natural size.

Fig. 2. A part of the same magnified.

Fig. 3. The glumes of the calyx magnified.

Fig. 4. The Corolla.

Fig. 5. The Stamina.

Fig. 6. The Pistillum.

Fig. 7. The seed of its natural size.

Fig. 8. The same magnified.

The *Panicum verticillatum* in its general habit agrees exactly with the *viride*, but in the size and form of the spike, and the parts composing it, it differs very materially: the whole plant is generally one-third larger than that of the *viride*; the spike is larger, and much less compact; it is evidently composed of little branches, which grow somewhat in whirls, whence its name. The setæ or hairs of the spike are considerably shorter than those of the *viride*, and differ from them particularly in being hooked, so that the spike drawn over the back of the hand or cuff of the coat adheres very strongly; and where several spikes grow near each other, they are very apt, from this cause, to become entangled.

I found this plant growing last year very sparingly in the Gardeners Grounds *Battersea Fields*, with the *viride*, and flowering at the same time. Mr. RAY describes it as having been found in a Turnip Field betwixt *Putney* and *Roehampton*, also beyond the *Neat-houses* by the *Thames* side, going from the Horse Ferry above *Westminster* to *Chelsea*. SCHEUCHZER remarks, that it is a troublesome weed in the gardens at *Paris*.







Panicum Crus Galli.

PANICUM CRUS GALLI. LOOSE PANIC-GRASS.

PANICUM *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 3-valvis: valvula tertia minima.

PANICUM *Crus galli* spicis alternis conjugatisque, spiculis subdivisis, glumis aristatis hispidis, rachi quinquangulari. *Lin. Syst. Vegetab.* p. 90. *Spec. Pl.* p. 83.

PANICUM spica remota, fetis nullis. *Haller Hist.* n. 1544.

PANICUM *Crus galli.* *Scopoli Fl. Carn.* n. 70.

GRAMEN paniceum spica divisa. *Baub. Pin.* 8.

GRAMEN paniceum, spica divisa, aristis longis armata. var. β . *Baub. Pin.* 8.

PANICUM sylvestre Herbariorum. *Parkins.* 1154.

PANICUM vulgare. *Ger. emac.* 85. *Raii Syn.* p. 394. Panick Grass with a divided Spike. *Hudson Fl. Angl. ed. 2.* p. 24.

RADIX annua, fibrosa.

CAULES plerumque plures ex una radice, primo procumbentes, seu obliqui, demum suberecti, pedales aut bipedales, tribus aut quatuor geniculis distincti.

FOLIA in humilioribus tres quatuorve uncias longa, lineas duas aut tres lata, in procerioribus semipedalia, vel etiam pedalia fere, lineas quatuor, aliquando et sex semptemve lata, acuminata, carinata, lævia, marginibus minutissime denticulatis et ad basin circa orem vaginæ pilosis; Membrana nulla; Vagina magna, striata, compressa.

FLORES paniculati.

PANICULA palmaris, et ultra, e pluribus spicis composita, pallide virescens.

SPICÆ sæpe ad duodecim, crassæ, teretiusculæ, plerumque simplices et alternæ, etiam ramosæ et oppositæ, inferioribus sesquiuncialibus, magisque remotis.

RACHIS quinquangularis, angulo quinto obsoleto, ad basin spicarum setosa.

FLORES secundi, turgidi.

CALYX trivalvis, valvula inferiore minore, flosculum recipiente, *fig. 1.* prima et secundâ æqualibus, nervosis, mucronatis, hirsutis, alterâ plana, alterâ gibbosa. *fig. 2, 3. auct.*

COROLLA bivalvis, valvulis æqualibus, glabris, ovatis, alterâ alteram margine suâ amplectente, *fig. 4.* intra valvulam calycis et corollæ, membrana tenuis, nunc acuta, nunc emarginata. *fig. 5, 6.*

STAMINA: FILAMENTA tria, capillaria, brevissima; ANTHERÆ bifurcæ, purpurascens. *fig. 7.*

PISTILLUM: GERMEN subrotundum; STYLI duo brevissimi; STIGMATA plumosa, purpurascens. *fig. 8.*

SEMEN majusculum, nitidum, glumis corollaceis tectum, hinc convexum, inde planum, *fig. 9, 10.* denudatum, *fig. 11, 12, 13.*

ROOT annual and fibrous.

STALKS generally several proceed from the same root, at first procumbent or oblique, finally nearly upright, from one to two feet in height, furnished with three or four joints.

LEAVES in the more humble plants three or four inches long, and from two to three lines in breadth; in the taller plants six inches, or nearly a foot in length, four lines, and sometimes six or seven broad, tapering to a point, keeled, smooth, the edges very finely toothed, and about the mouth of the sheath hairy; Membrane none; Sheath large, striated and compressed.

FLOWERS in a panicle.

PANICLE a hand's breadth or more in length, of a pale green colour, composed of many spikes.

SPIKES often twelve in number, thick, roundish, generally simple and alternate, sometimes also branched and opposite, the lowermost an inch and a half in length, longer and farther asunder than any of the rest.

RACHIS having five angles, the fifth less perceptible than the others, bristly or hairy at the base of the spikes.

FLOWERS growing one way and turgid.

CALYX composed of three valves, the lowermost or third valve very small, receiving the floscule, *fig. 1.* the first and second equal, rib'd, pointed, hirsute, the one flat, the other gibbous. *fig. 2, 3. magnified.*

COROLLA composed of two valves, the valves equal, smooth, ovate, the one with its margin embracing the other, *fig. 4.* betwixt the valve of the calyx and the corolla a thin membrane is observable, which is sometimes notched, and sometimes pointed. *fig. 5, 6.*

STAMINA: three very slender and short FILAMENTS; ANTHERÆ forked and purplish. *fig. 7.*

PISTILLUM: GERMEN roundish; STYLES two, very short; STIGMATA feathered and purplish. *fig. 8.*

SEED rather large, shining, covered by the valves of the corolla, round on one side, and flat on the other, *fig. 9, 10.* taken from its covering. *fig. 11, 12, 13.*

Near the same spot where the *Panicum sanguinale* is found, this rare species also makes its appearance, a space of about twenty yards square was last autumn covered chiefly with this grass, and the *Panicum viride*; in other parts of the fields it more rarely occurs; being an annual it may vary its particular place of growth, but by a diligent search will probably always be found in some part of *Battersea Fields*; Mr. RAY mentions it as having been found between *Deptford* and *Greenwich* in Garden Ground, also in a lane by the *Neat-house Gardens Chelsea*, and by the rivulet side near *Petersfield, Hampshire*. He is surely mistaken in saying *aquosis delectatur*. Mr. HUDSON describes it as growing near *Martha's Chapel, Guildford*.

Botanists make two principal varieties of it, viz. one with awns, and another without; the latter, which is the state in which we have figured it, most frequently occurs; it varies also in its colour, being sometimes found with spikes of a purplish hue.

It has a very great affinity to the *Panicum Crus corvi*, a foreign grass, but is too singular to be mistaken for any *English* Panic.

Affording a large quantity of seeds of considerable magnitude, it is sought for with great avidity by sparrows and other small birds.







Panicum sanguinale.

PANICUM SANGUINALE. COCK'S-FOOT PANIC-GRASS.

PANICUM *Lin. Gen. Pl. TRIANDRIA DIGYNIA.*

Cal. 3-valvis: valvula tertia minima.

PANICUM *sanguinale* spicis digitatis basi interiore nodosis, flosculis geminis muticis, vaginis foliorum punctatis. *Lin. Syst. Vegetab. p. 90. Sp. Pl. 84.*

DIGITARIA foliis subhirsutis, caule debili, spicis verticillatis. *Haller Hist. n. 1526.*

DIGITARIA *sanguinalis. Scopoli Fl. Carn. n. 72.*

GRAMEN dactylon latiore folio. *Baubin Pin. 8.*

ISCHÆMON sylvestre latiore folio. *Parkins. 1178.*

ISCHÆMON vulgare. *Ger. emac. 27. Cock's-foot-grass. Raii Syn. p. 399. Scheuch. Agroft. 101. Schreb. Agroft. t. 16. Hudson Fl. Angl. ed. 2. p. 25.*

RADIX annua, fibrosa.

CULMI ex una radice plures, spithamæi, pedales, subrubentes, subinde ramosi, adscendentes, infracti, tenues valde et debiles, quatuor plerumque geniculis distincti.

FOLIA uncialia, sesquiuncialia, et biuncialia, lineas duas aut duas cum dimidia lata, acuta, ad unum latus sæpe undulata, superne et inferne raris pilis hirsuta, marginibus ad lentem minutissime ferrulatis; vagina striata, valde pilosa, pilis e punctis prominulis prodeuntibus.

SPICÆ ternæ, quaternæ, et quinæ plerumque, in cultis sæpe plures, digitatim summo culmo insidentes, sesquiunciam ad quatuor uncias longæ, filiformes, vel eodem loco oriundæ omnes, vel alternatim e summo culmo prodeuntes, et exiguè ab invicem spatio discretæ, purpureæ, aut ex purpureo et viridante mixtæ.

SPICULÆ secundæ, binæ, rachi adpressæ, pedicellatæ, pedicello altero longiore, longitudine spiculæ, ovato-lanceolatæ, acutæ, nunc purpurascens, nunc virides. *fig. 1, 2, 3, 4. auct.*

CALYX trivalvis, persistens, infima minima, brevissima, nudo oculo vix conspicua, *fig. 2.* secunda et tertia oppositis, inæqualibus, acutis, nervosis, margine scabris, superiore longitudine corollæ quam margine suo amplectitur, inferiore dimidio brevior. *fig. 3, 4.*

COROLLA: bivalvis, valvulis æqualibus, glabris, alterâ alteram recipiente, *fig. 8.* ubi membrana ad basin earum pingitur, *fig. 6, 7.* distinctæ apparent.

STAMINA: FILAMENTA tria, capillaria, corollâ paulo longiora; ANTHERÆ breves, parvæ, purpurascens, utrinque bifurcæ. *fig. 9.*

PISTILLUM: GERMEN oblongum; STYLI duo, filiformes, longitudine staminum; STIGMATA plumosa, purpurea. *fig. 10.*

SEMEN minimum, oblongum glumis calycinis æque ac corollaceis inclusum, *fig. 11, 12.* denudatum, *fig. 13. magnit. nat. fig. 14, 15. auct.*

ROOT annual and fibrous.

STALKS several from one root, a span or a foot in height, of a reddish colour, sometimes branched, bending upward, crooked, very slender and weak, and generally furnished with four joints.

LEAVES an inch, an inch and a half, or two inches in length, and from two to two lines and a half in breadth, pointed, often waved on one side, on both sides beset with a few hairs, the edges when magnified very finely sawed; the sheath striated, very hairy, the hairs proceeding from little prominent points.

SPIKES sitting on the top of the stem, generally three, four or five together, often more in cultivated places, branching out like fingers, from one inch and a half to four inches in length, filiform, all of them proceeding from the same point, or growing alternately, leaving a small space betwixt them, of a dark purple colour, or purple and green mixed together.

SPICULÆ growing one way, pressed to the rachis, standing on foot-stalks, the longest of which is of the length of one of the spiculæ, ovato-lanceolate and pointed, sometimes purplish, and sometimes green. *fig. 1, 2, 3, 4. magnified.*

CALYX composed of three valves, and permanent, the lowermost very minute and short, scarcely perceptible by the naked eye, *fig. 2.* the second and third opposite, unequal, pointed, rib'd, rough on the edges, the upper one the length of the corolla, which it enfolds with its margin, the lower one half its length. *fig. 3, 4.*

COROLLA: composed of two valves which are equal and smooth, the one receiving the other, *fig. 8.* where a small membrane is painted at their base; at *fig. 6.* and *7.* they appear disjointed.

STAMINA: three FILAMENTS, very slender, a little longer than the corolla; ANTHERÆ small, short, purplish, forked at each end. *fig. 9.*

PISTILLUM: GERMEN oblong; STYLES two, filiform, the length of the stamens; STIGMATA feather'd and purple. *fig. 10.*

SEED very small, oblong, inclosed by the glumes of the calyx, as well as of the corolla, *fig. 11, 12.* stripped of these, *fig. 13.* of its natural size, and magnified at *fig. 14, 15.*

Modern Botanists are divided in their opinions respecting the genus of this plant, LINNÆUS, SCHREBER, and others considering it as a *Panicum*; ADANSON, HEISTER, HALLER and SCOPOLI arranging it under a new genus, viz. *Digitaria*, a name adapted to the particular disposition of its spikes, but as that particular disposition has little to do with its generic character, and as it has a triphyllous calyx, which LINNÆUS, with much propriety, considers as a principal character of the *Panicum*, we follow him in preference to the others, however respectable. We may observe, that the exterior leaf forming this triphyllous calyx is so very minute, that it may easily be overlooked.

The figures and descriptions, quoted by LINNÆUS, induce us to consider this species as the *sanguinale*, rather than his specific description, which certainly does not well accord with our plant. The *vagina punctata* are not mentioned either by HALLER, SCHEUCHZER, or SCOPOLI; the hairs certainly issue from little prominent points, scarcely visible, unless magnified. If LINNÆUS means these, they are, in our apprehension, too minute to form a specific character on.

According to the observations of botanic writers, this species is very universal, being found not only in *Europe*, but *Asia* and *America*; nevertheless, it is not general throughout *England*. It is said to grow about *Elden* in *Suffolk*, at *Witchingham* near *Norwich*, near *Martha's Chapel* by *Guildford*, and in the Gardener's grounds near *Battersea*; in the latter place I found it last *September*, in great plenty; but in one part of the fields only, viz. among the *French* beans, and on the *Asparagus* beds, in the Western corner of the fields, at no great distance from the Church.

MATTHIOLUS relates, that in *Carniola* the seeds are collected for food, but this is flatly contradicted by SCOPOLI; indeed, for this purpose, it appears much inferior to many others of the same genus.

Its name of *sanguinale* is not taken from its colour, but from an idle trick which the boys in *Germany* have of pricking their nostrils with the spiculæ of this grass, till they draw blood.







Alopecurus
pratensis.

ALOPECURUS PRATENSIS. MEADOW FOXTAIL-GRASS.

ALOPECURUS *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 2-valvis *Cor.* 1-valvis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

ALOPECURUS *pratensis* culmo spicato erecto, glumis villosis, corollis muticis. *Lin. Syst. Vegetab.* p. 93. *Sp. Pl.* p. 88. *Fl. Suec.* 20.

ALOPECURUS spica ovata. *Haller. Hist. n.* 1539.

GRAMEN phalaroides majus five italicum. *Baub. pin.* 4.

GRAMEN alopecuroides majus. *Ger. emac.* 10.

GRAMEN phalaroides majus. *Parkins.* 1164.

GRAMEN alopecuro simile glabrum cum pilis longiusculis in spica onocordon mihi denominatum. *I. B.* II. *Raii Syn.* p. 396. The most common Foxtail-grass. *Hudson. Fl. Angl. ed. 2.* p. 27. *Lightfoot Fl. Scot.* p. 91. *Schreb. Gram.* 133. t. 19. f. 1.

RADIX perennis, fibrosa, fibris pallide fuscis.

ROOT perennial and fibrous, the fibres of a pale brown colour.

CULMI sesquipedales, bipedales, et haud infrequenter tripedales, erecti, teretes, striati, læves, ad basin purpurei, radicanter.

STALKS a foot and a half, two feet, and not unfrequently three feet high, upright, round, finely grooved, smooth, at bottom purple, and til-
luring.

FOLIA palmaria, seu spithamea, sensum in acutum mucronem terminata, glabra, striata, parte superna et ad margines si digiti deorsum ducantur aspera, lineam unam cum dimidia communiter aut duas fere lata. *Vaginae* striatae, læves, in superiore parte culmi inflatae. *Membrana* brevis, obtusa.

LEAVES a hand's breadth or short span in length, gradually tapering to a point, smooth, striated, if drawn backward across the fingers feeling rough on the upper side and on the edges, commonly a line and a half or almost two in breadth. *Sheaths* striated, smooth, on the upper part of the stalk inflated. *Membrane* short and blunt.

SPICA sesquiuncialis, biuncialis, duas etiam nonnunquam cum dimidia uncias longa, duas tresque lineas lata, teres, cylindracea, obtusa, mollis.

SPIKE an inch and a half, two inches, and sometimes even two inches and a half long, and two or three lines broad, round, cylindrical, blunt and soft.

SPICULÆ unifloræ, compressæ, utrinque ciliatæ, nervosæ, mucronato-tridentatæ, fig. 1.

SPICULÆ one flower in each, flat, each side edged with hairs, ribbed, slightly tridentate, the middle point longest, fig. 1.

CALYX: *Gluma* bivalvis, uniflora, valvulis subæqualibus, ovato-lanceolatis, concavis, compressis, trinervibus, nervis pilosis, fig. 2.

CALYX: a *Glume* of two valves, containing one flower, the valves nearly equal, ovate and pointed, flattened, three-ribbed, the ribs hairy, fig. 2.

COROLLA univalvis, *valvula* concava, longitudine calycis, albida, subdiaphana, superne nervis tribus viridibus insignita, aristata; *arista* calyce duplo fere longiore, dorso valvulæ versus basin inserta, fig. 3.

COROLLA of one valve, the valve hollow, the length of the calyx, whitish, somewhat transparent, marked on the upper part with three green ribs, and bearded; the *beard* or awn almost as long again as the calyx, inserted into the back of the valve towards the base, fig. 3.

STAMINA: FILAMENTA tria, capillaria. ANTHERÆ oblongæ, utrinque bifurcæ, plerumque purpurascens, demum ferrugineæ, fig. 4.

STAMINA: three capillary FILAMENTS. ANTHERÆ oblong, forked at each end, for the most part purplish, finally ferruginous, fig. 4.

PISTILLUM: GERMEN ovatum, minimum. STYLI duo, villosi, reflexi, calyce longiores. STIGMATA simplicia, fig. 5.

PISTILLUM: GERMEN ovate, very minute. STYLES two, villous, reflexed, longer than the glumes of the calyx. STIGMATA simple, fig. 5.

SEMEN ovatum, minimum, glumis tectum, fig. 6, 7.

SEED ovate, very minute, covered by the glumes, fig. 6, 7.

In a former number of this work, containing the *Festuca fluitans*, we gave a copious extract from that excellent work on Grasses, the *Beschreibung der Grafer* of Professor SCHREBER: we now present our readers with an abridged account from the same author of another grass, apparently of much greater consequence in agriculture.

The Meadow Foxtail-grass is chiefly an inhabitant of the northern part of our moderate zone, being found abundantly in most parts of Germany, Holland, France, England, Denmark, Norway, Sweden, and Russia. Professor GMELIN has also found it plentifully in Siberia.

Though the grasses in general are not so strongly attached to particular situations as many plants are, yet they are always more abundant, and superior in goodness, in some one kind of ground than another. The Meadow Fox-tail loves a meadow ground somewhat low, and moderately wet, with a good soil, though it will also grow in dry, and even in quite wet ground; yet, in the first, it remains poor, small, and disappears by little and little, while, in the latter, other grasses are apt to overpower and supplant it.

In

In such districts of Saxony as are celebrated for the goodness of their meadows, it always makes a considerable part of the hay; and the same remark has been made by Mr. STILLINGFLEET and Professor KALM in England, respecting the best meadows about London.

The Meadow Foxtail is one of those grasses which appear first in the spring, and sometimes blow twice in the same year*. In respect to flowering, it observes nearly the same time as the *Anthoxanthum odoratum*. In Germany it puts forth its silvery spikes about the beginning of May†, when the seed is ripe, which with us takes place before hay-making‡, the spike remains unchanged in its shape for some time; the little husks containing the seed may easily be stripped off, but fall off very slowly of themselves.

Experience proves that the Meadow Foxtail-grass has a power of vegetating quickly. Its shoots proceed with such vigour, that it may very well be cut three times in a year. Its stalks are strong, and provided with large leaves, which are soft and juicy. Their taste is as that of good fodder-grass ought to be, sweetish and agreeable, having, when made into hay, neither the hardness of straw, nor the roughness or unpleasant taste attendant on some of the other grasses; we may therefore consider it as holding the first place among the good grasses, either used as fresh fodder, or made into hay, especially for the larger cattle. Though the sheep in such meadows as abound with this grass, do not improve in the fineness of their wool, yet they give a preference to it, both green and dried. On the whole, we may with truth assert, that hay is better in proportion to the quantity of Meadow Foxtail-grass there is among it; not to mention that such hay has the advantage in the weight, and consequently goes farther than hay made of the finer grasses.

In the northern countries, Sweden especially, the meadows are frequently laid waste by a most destructive caterpillar, which produces a moth called, by LINNÆUS, *Phalena graminis*: it has been discovered, that the *Alopecurus pratensis* remains untouched by this destructive insect; so far, therefore, from injuring this grass, it gives it an opportunity, by weakening and destroying the others, to extend itself farther; but though its particular taste or forward growth exempts it from the ravages of this species of caterpillar, there is another which is particularly fond of it, viz. the *Phalena patoria*, yet as this feeds singly on its foliage, and never increases greatly, it suffers little from it§.

As this grass, therefore, appears to be our author of so much consequence in the making and improving of meadows and pastures, he proceeds to give some account how this improvement may be effected.

In this business the first thing of moment, he observes, is the necessary choice and preparation of the ground; if that be in the power of the cultivator, and as the Meadow Foxtail is found neither to thrive in a soil that is quite dry, or quite wet, he prefers a wet one rendered moderately dry by draining.

After procuring a piece of ground naturally fit, or rendered so by art, he recommends it to be ploughed up immediately after harvest, before the wet season sets in, in which state it is to remain all the winter; the frost breaking the clods, renders it fit for sowing on in the spring, at which time you must throw in your seeds of the Meadow Foxtail, mixed with other proper pasture herbs||, together with a crop of oats¶; the latter, when sufficiently grown, may be cut for fodder.

A meadow, thus improved, requires all the care necessary in the management of meadows; in particular, a copious watering after hay-making, if the season prove unusually dry, must not be omitted. If after some years the soil should become bound, or noxious plants increase in such a manner as to make the meadow less productive, which often happens when the soil or situation is unfavourable, the meadow must be broken up and fresh sown.

The procuring of the seed, requisite even for a tolerably large sowing, is attended with but little difficulty, if we can only get some slips or roots of this grass. The great number of seeds which grow upon one spike, of which more than one spring from each slip; the double crop in one summer, and the rapid growth of this grass, evince this sufficiently. The gathering of the seed itself is very easy; it needs only to be stripped off with the hand, and put in a bag, and if there be a large quantity together, spread out and dried, even the hay-seed of such meadows as abound with Meadow Foxtail is useful in sowing; but we must well observe how it is mixed: good hay-seed should contain a greater proportion of grass-seeds than of other herbs; the latter must be esculent and nutritive, without any mixture of hard, woody, or succulent ones, which corrupt the hay; much less should it contain tasteless, acrid, or poisonous plants. But it may be asked, where is such hay-seed to be obtained? Certainly the meadows are rare which contain a mixture of proper plants unadulterated with noxious ones; hence the best method will be to collect separately the seeds of the most useful grasses and meadow plants, to increase them singly, to compound the hay-seed of them, and to sow therewith, at first, small meadows, from whence we may, in process of time, obtain a sufficient stock of seed for a more general cultivation.

* This disposition of grasses to flower more than once in the same year, is perhaps deserving of more attention than may have hitherto been paid to it. We have noticed it to take place strongly in the present grass, the yellow Oat, the tall Oat, and some others; on the contrary, there is one grass, viz. the *Poa pratensis*, already figured, which we have never observed to shew the least disposition to throw up a flowering stem twice in the same year. While this may serve as an additional character, whereby it may be distinguished from the *Poa trivialis*, it may also recommend it as a suitable grass for extensive lawns, where bents are troublesome, and offend the eye. We observed, in treating of the *Poa pratensis*, that its root was of the creeping kind; it will probably be found, that all those grasses which have that sort of root flower but once in a season; and if we consider a creeping root as similar in its economy to a bulb, we shall not be at a loss to account for it.

† Its usual time of flowering with us.

‡ In the neighbourhood of London, hay-making generally commences three or four weeks sooner than it does fifty miles from town. Whether this practice hath arisen from the richness of soil accelerating the growth of the herbage, or from the meadows abounding more with early grasses, it may perhaps be difficult to determine; but certainly, by this practice, we reap all the advantages from those early grasses which are lost by longer delay; and hence the seeds of our hay-lofts must be proportionably better than those at a distance, as early grass is preferable to late.

§ In the papers of the Bath Agricultural Society, vol. II p. 79. the Rev. Mr. SWAYNE of Puckle Church, in Gloucestershire, gives an account of a very minute insect, which, feeding within the husks of the spikes, renders them barren; we shall quote his own words. "On rubbing out the husks, when I judged the seed to be approaching to ripeness, I found almost every seed-vessel occupied by a soft substance, of a deep yellow or orange colour, no ways resembling a seed. On applying the microscope, this substance proved to be a congeries of animalcules, which being shook out on a sheet of white paper, and separated from each other, displayed the exact shape and motion of those insects which are oftentimes found in hams and bacon, and which are known among housewives by the name of hoppers. The flies likewise, which these caterpillars produce, were found to be very like the hopper flies, only infinitely smaller."

|| We should prefer the latter end of August, or beginning of September, for the purpose of sowing grass seeds, provided the season proved favourable.

¶ Should the land intended to be laid down be very foul, we apprehend, repeated ploughings and harrowings, and that for more than one season, would be necessary. Farmers are divided in their opinions respecting the propriety of sowing Oats or Barley with grass-seeds; some apprehending, that the corn does the young grass more harm by robbing it of its nourishment, than the shade or shelter afforded thereby does it good.





Alopecurus myosuroides

ALOPECURUS MYOSUROIDES. FIELD FOXTAIL GRASS.

ALOPECURUS *Linnaei* Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis. Cor. 1-valvis.

Rai Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

ALOPECURUS *myosuroides* spica cylindrica longissima, glumis glabris; culmo suberecto. *Hudson Fl. Angl. p. 23.*

ALOPECURUS *Agræstis* culmo spicato erecto, glumis lævibus. *Lin. Syst. Vegetab. p. 93. Sp. Pl. p. 89.*

ALOPECURUS culmo erecto, spicato, calyce ciliato. *Haller hist. helv. p. 249.*

GRAMEN Typhoides spica angustiore. *Baubin Pin. 4.*

GRAMEN cum cauda muris purpurascens. *I. Baubin. 2. p. 473.*

GRAMEN spicatum, spica cylindracea tenuissima longiore. *Scheuch. Gram. 69.*

GRAMEN *myosuroides* majus, spica longiore, aristis rectis. *Raii Syn. p. 397, The greater Mouse-tail Grass.*

GRAMEN alopecuroides spica longa majus et minus. *Parkinson 1169.*

GRAMEN alopecuroides minus. *Gerard emac. 10. Lightfoot Fl. Scot. p. 91. Schreber. Gram. 140. t. 19. fig. 2.*

RADIX annua, fibrosa, fusca.

CULMUS pedalis, erectus, basi sæpe infractus, rigidiusculus, teres, geniculatus.

FOLIA triuncialia, ad duas lineas lata, lævia, striata, basi membranâ obtusâ instructa.

SPICA longa, tenuis, subcylindracea, purpurascens.

SPICULÆ unifloræ, ovato-acutæ, in spicam imbricatum congestæ, externe convexulæ, interne planæ, fig. 1.

CALYX: GLUMA bivalvis, uniflora; valvulæ subæquales, muticæ, nervosæ, basi annulo cinctæ, fig. 2, 3.

COROLLA univalvis, valvulâ calyce paulo longiore, membranaceâ, lævi, fig. 4, Aristâ recta, e basi valvulæ exserta, spiculâ duplo fere longiore instructa, fig. 5.

STAMINA: FILAMENTA tria, capillaria, erecta, valvulis calycinis duplo longiora: ANTHERÆ oblongæ, utrinque furcatæ, fig. 6.

PISTILLUM: GERMEN minimum, fig. 7: STYLUS brevis, basi tumidus, fig. 8: STIGMATA duo, setacea villosa apice reflexa, fig. 9.

SEMEN unicum, minimum, subrotundum, corolla et calyce obvestitum, fig. 10.

ROOT annual, fibrous, and brown.

STALK a foot high, upright, often crooked at bottom, stiffish, round, and jointed; the joints smooth and purple.

LEAVES about three inches long and two lines broad, smooth, striated, furnished at bottom with an obtuse membrane.

SPIKE long, slender, somewhat cylindrical, and purplish.

SPICULÆ uniflorous, of a pointed oval shape, lying closely one over another in a spike, externally roundish, internally flat, fig. 1.

CALYX: a GLUME of two valves, containing one flower; the valves nearly equal, not terminated by any short Arista, strongly rib'd, and surrounded at bottom by a ring, fig. 2, 3.

COROLLA of one valve, the valve a little longer than the calyx, membranous, and smooth, fig. 4, furnished with a straight Arista, which proceeds from the base of the valve, and is nearly twice the length of the spicula, fig. 5.

STAMINA: three FILAMENTS, very fine, upright, twice the length of the valves of the calyx: ANTHERÆ oblong, and forked at each end, fig. 6.

PISTILLUM: GERMEN very small, fig. 7: STYLE short, swelled at bottom, fig. 8: STIGMATA two, tapering, villous, bent back at top, fig. 9.

SEED one, very minute, enclosed by the corolla and calyx, fig. 10.

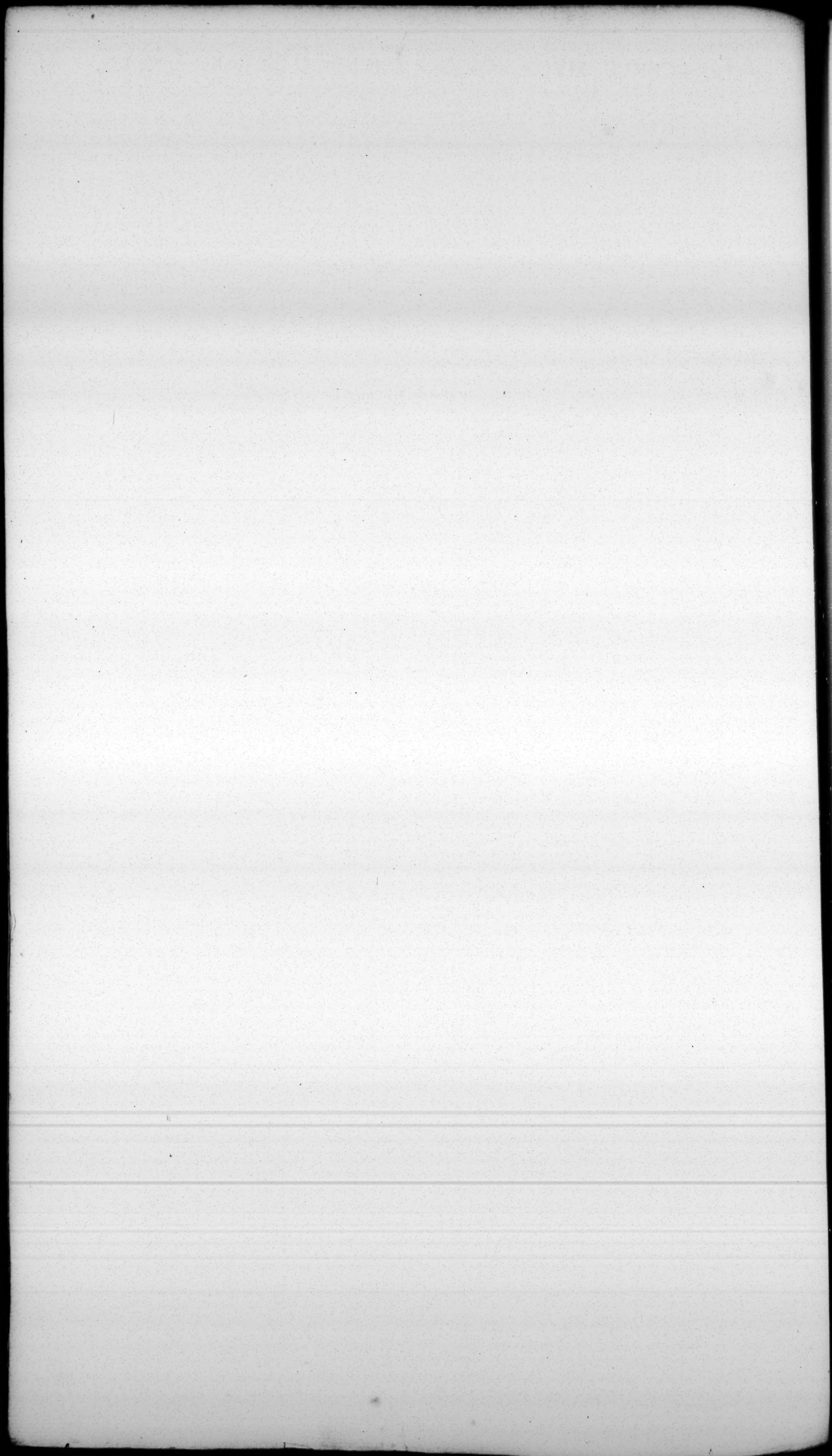
THE Field Foxtail Grass, with respect to agriculture, may be considered rather as a weed than as an useful pasture grass.

It is very common in cultivated ground; and often abounds so much in corn fields, as to be prejudicial, among rubbish, and on banks by the sides of fields, it is also frequently found; but scarce ever in meadows.

It flowers early, and continues to blossom till Autumn; and comes into bloom the quickest, after being sown, of any grass that I have hitherto noticed.

It is distinguished from the other species of the same genus, by its long slender spike, which tapers to a point, and has some resemblance to a mouse's tail, whence J. BAUHINE's and Mr. HUDSON's names. This spike is generally of a purplish colour, at least on that side which is most exposed to the sun; though sometimes the whole spike appears of a whitish colour. The form of the spike, and its place of growth, will, in general, point out this species plainly enough. But if these should be found deficient, the student may have recourse to the annulus or ring, which surrounds the base of each spicula, vid. fig. 3.

I have found this species effected with the disease called Ergot, described under the Flote Fescue Grass.







Hypochaeris geniculatus.

ALOPECURUS GENICULATUS. JOINTED FOX-TAIL GRASS.

ALOPECURUS *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 2-valvis. *Cor.* 1-valvis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

ALOPECURUS *geniculatus* culmo spicato infracto, corollis muticis, *Lin. Syst. Vegetab.* p. 93. *Sp. Pl.* 89. *Fl. Suec.* n. 60. *Haller. hist.* n. 1541.

ALOPECURUS *geniculatus* culmo adscendente, spica cylindrica, glumis apice divergentibus pilosis. *Hudson Fl. Angl. ed.* 2. p. 27.

ALOPECURUS *geniculatus* *Scopol. Fl. Carn.* n. 82.

GRAMEN aquaticum geniculatum spicatum. *Bauh. pin.* 3. *Scheuchz. Agrost.* 72.

GRAMEN fluviatile spicatum. *Ger. emac.* 14.

GRAMEN aquaticum spicatum. *Parkinsf.* 1373. *Raii Syn.* 396. Spiked Flote Grass. *Lightfoot, Fl. Scot.* p. 92. *Oeder Fl. Dan.* 564.

RADIX perennis, fibrosa, fibris albicantibus, et quandoque subfuscis.

CULMI plures, pedales, sesquipedales et ultra, inferne procumbentes, et sæpe repentes, suberecti, geniculati, infracti, ramosi, superne nudi, striati, præsertim in solo arido plus minus bulbo.

FOLIA duo aut tres lineas lata, striata, superne digitis deorsum ductis aspera, inferne lævia, superiora breviora, uncialia aut biuncialia, patentia, sæpe ad margines crispata; membranæ ad basin folii ovata, acuta; vaginæ læves, striatæ, ventricosæ.

SPICÆ unciales, sesquiunciales et ultra, subcylindricæ, forma et colore maxime variantes, nunc obtusæ nunc ad apicem sensim attenuatæ, virentes, purpurascens, aut etiam nigricantes procul saltem visæ.

FLOSCULI imbricati.

CALYX: GLUMA uniflora, bivalvis, compressa, valvulis oblique truncatis, pubescentibus, trinerviis, carina ciliata, fig. 1.

COROLLA: GLUMA univalvis, oblonga, ovata, truncata, quinquenervis, pellucida, nuda, aristata, fig. 2. Arista juxta basin exserta corolla duplo longiore, fig. 3.

STAMINA: FILAMENTA tria, corollâ longiora; ANTHERÆ oblongæ, primum purpureæ, demum ferrugineæ, fig. 4.

PISTILLUM: GERME subrotundum; STYLI duo, cirrhosi, albi, extra calycem protensi, fig. 5.

ROOT perennial, fibrous, the fibres whitish, sometimes inclined to brown.

STALKS several, a foot, a foot and a half or more in length, below procumbent, and often creeping, nearly upright, jointed, crooked, above naked and striated, branched, the base especially in a dry soil more or less bulbous.

LEAVES two or three lines broad, striated, the upper side if drawn backwards betwixt the fingers rough, the under side smooth, the uppermost leaves short, an inch or two inches long, spreading, often crimped at the edges; the membrane at the base of the leaf, ovate and pointed, the sheaths smooth, striated, and bellying out.

SPIKE an inch, an inch and a half or more in length, somewhat cylindrical, varying greatly both in form and colour, sometimes blunt, and sometimes tapering to a point, greenish, purplish, and even blackish, at least when viewed at a distance.

FLORETS imbricated.

CALYX: a GLUME of two valves, containing one flower, flattened, the valves obliquely truncated, downy, three-ribb'd, the keel ciliated, fig. 1.

COROLLA: a GLUME of one valve, oblong, ovate, truncated, five-rib'd, pellucid, without hairs, and bearded, fig. 2. the Beard or awn proceeding from near the base, and twice the length of the corolla, fig. 3.

STAMINA: three FILAMENTS, longer than the corolla; ANTHERÆ oblong, at first purple, afterwards ferruginous, fig. 4.

PISTILLUM: GERME roundish; STYLES two, slender, feathery, and extended beyond the calyx, fig. 5.

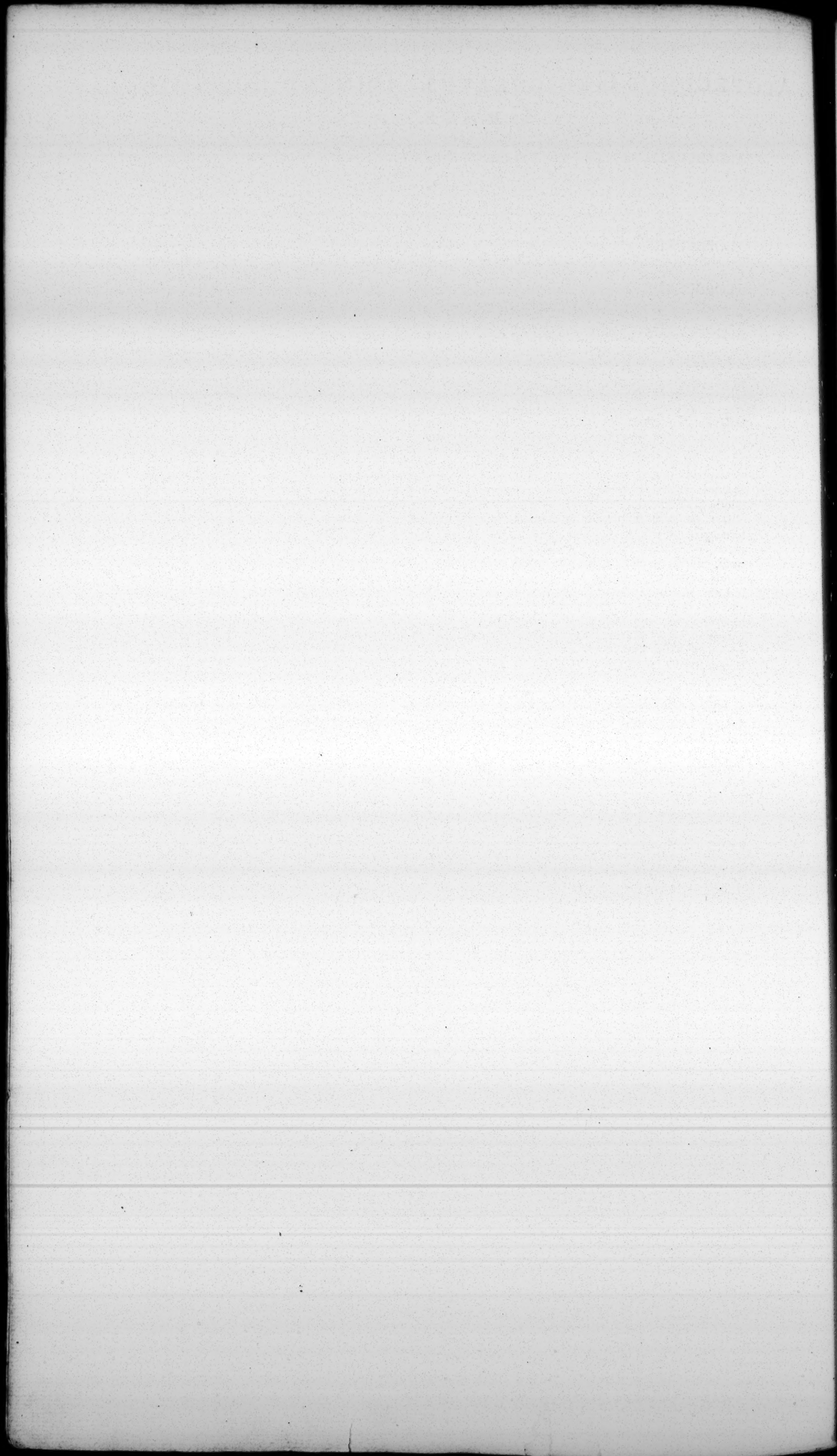
It is in the depressed parts of meadows, where water is occasionally apt to stagnate, that this species of Fox-Tail Grass particularly delights to grow, nor is it unfrequent on the edges of ponds, streams, and wet ditches, where it often makes its way into the water; it is also, though more rarely, found in dry pastures; and, according to these several situations, it is found to vary.

In the first, the stalks are procumbent at the base, spread themselves on the ground, and extend a foot or more in length; before they rise upwards, the spikes often assume a blackish or deep purple colour, which causes it to be noticed by the Farmer, who distinguishes it by the name of Black Grass*. In the second, it is very much enlarged in its size, and approaches near to the *Alopecurus pratensis*; but the stalk still retains towards the bottom its crooked appearance. In the third, it grows more upright, the spike becomes much slenderer, and the base of the stalk often swells out into a kind of bulb, as in the *Avena elatior*, and this variety has been called *Alopecurus bulbosus*; in all these several varieties, the *geniculatus* cannot easily be mistaken for any other species of *Alopecurus*.

It flowers in June.

Cattle eat it readily, nevertheless it cannot be recommended as a profitable Grass; nor do the more observing Farmers consider it as such: indeed, where such Grass is apt to abound, the best practice would be to fill up the depressions, and sow the ground with better Grasses.

* The Farmer also distinguishes the *Alopecurus agrestis* (*myosuroides*, *Fl. Lond.*) by the name of Black Grass.







Milium effusum.

MILIUM EFFUSUM. MILLET GRASS.

MILIUM *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 2-valvis, uniflorus: valvulis subæqualibus. *Corolla* brevissima. *Stigmata* penicilliformia.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

MILIUM *effusum* floribus paniculatis dispersis muticis. *Lin. Syst. Veget.* p. 94. *Sp. Pl.* p. 90. *Fl. Suzc.* n. 61.

MILIUM paniculis raris, longissime petiolatis. *Haller. Hist.* 1525.

GRAMEN sylvaticum, panicula miliacea sparfa. *Baub. Pin.* 8.

GRAMEN miliaceum. *Lob. icon.* 3. *Ger. emac.* 6. *I. B. II.* 462.

GRAMEN miliaceum vulgare. *Park.* 1153. *Raii Syn.* p. 402. Millet-grass. *Lightfoot Fl. Scot.* p. 92.

RADIX perennis, repens.

CULMI tenues, tres, quatuorve pedes alti, quatuor communiter geniculis distincti, totidemque, vel quinis foliis a geniculis oriundis, vestiti.

FOLIA palmaria, spithamæa, et pedalia, glabra, tenuia, et infirma, subtilissimè per longitudinem striata, supernâ et infernâ parte aspera, marginibus etiam, si deorsum stringantur, asperis donata, tres, quatuorve lineas lata, sensim in acutum mucronem terminata. *Vaginæ* striatæ, glabræ, ad internam foliorum basin in membranulam tenuem, plerumque laciniatam terminatæ.

PANICULA palmaris, frequentius tamen spithamæa, pedalis et longior quandoque, suberecta, diffusa, laxa.

RAMI paniculæ, capillares, flexuosi.

CALYX: *Gluma* uniflora, bivalvis, acuminata, valvulis æqualibus, lævibus, ovatis, acutis. *fig.* 1. 2.

COROLLA bivalvis, calyce minor: valvulæ ovatæ, obtusiusculæ, altera minore. *fig.* 3. 4.

STAMINA: FILAMENTA tria, capillaria, corollâ longiora. ANTHERÆ primo oblongæ, demum bifurcæ, flavæ. *fig.* 5.

PISTILLUM: GERMEN subrotundum, viride, glabrum; STYLI duo reflexi, plumosi, albi. *fig.* 6.

SEMEN unicum, tectum, subrotundum, nitidum. *fig.* 7.

ROOT perennial, and creeping.

STALKS slender, three or four feet high, commonly furnished with four joints, and cloathed with as many or five leaves, arising from the joints.

LEAVES from four to seven inches or a foot in length, smooth, thin and weak, very finely striated through their whole length, the upper and under side as well as the edges rough if drawn backward through the hand, three or four lines in breadth, terminating gradually in a fine point. *Sheath* striated, smooth, at the inner base of the leaf terminating in a membrane which is often jagged.

PANICLE four inches in length, but more frequently a span, a foot, or more, nearly upright, spreading and loose.

BRANCHES of the panicle very fine, and crooked.

CALYX: a *Glume* of one flower, and two valves, pointed, the valves equal, smooth, ovate, and pointed. *fig.* 1. 2.

COROLLA composed of two valves, smaller than the calyx: the valves ovate, bluntish, one smaller than the other. *fig.* 3. 4.

STAMINA: three FILAMENTS, very fine, longer than the corolla. ANTHERÆ first oblong, then forked at each end, of a yellow colour. *fig.* 5.

PISTILLUM: GERMEN roundish, green, smooth. STYLES two, turned back, feathered and white. *fig.* 6.

SEED single, enclosed, roundish, and shining. *fig.* 7.

The grass here figured is the only one we have of the genus *Milium*. It is distinguished from the *Panics*, to which it has the greatest natural affinity, by having a calyx of two valves only: the height it usually attains, the particular situation in which it is found, joined to the delicacy of its panicle, eminently distinguish it from all our other grasses.

It abounds in many of the woods about town, particularly in *Charlton Wood*, and flowers in *May* with the *Lily* of the Valley and *Hare-bell*.

It has a creeping root, and grows readily in a shady situation.





Agrostis setacea

S. Edwards del. F. Sanjón sculp.

AGROSTIS SETACEA. SHEEP'S FESCUE-LEAVED AGROSTIS.

AGROSTIS. *Linn. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 2-valvis, 1-florus, corolla paulo minor. *Stigmata* longitudinaliter hispida.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

AGROSTIS *setacea* foliis setaceis, culmo erecto.

AGROSTIS *canina* v. γ foliis setaceis rigidis glaucis, culmo erecto. *Huds. Fl. Angl. ed. 2. p. 31.*

AVENA *monantha*, paniculata, foliis setaceis, gluma calycina exasperata; arista flore duplo longiore. *Hall. Hist. n. 1478.*

GRAMEN parvum paniculatum alpinum panicula spadicea aristatum. *Scheuchz. Agrost. p. 140. 1. Prod. p. 22. t. iv.*

AGROSTIS *alpina*. *Diagn.* unum petalum truncatum aut bifidum, e basi promit aristam basi recurvatum. *Scop. Fl. Carn. ed. 2. p. 61.*

RADIX perennis, fibrosa.

FOLIA radicalia numerosa, fasciculata, glauca, rigidula, setacea, teretiuscula, hinc sulcata, basi vaginis inclusa, ligula alba, erecta, instructa, caulina pauca, subulata, foliis radicalibus paulo latiora, erecta, sesunciam longa.

CULMI plures, spithamæ, pedales et ultra, suberecti, trinodes, scabriusculi, præsertim superne.

PANICULA bi-triuncialis, subcoarctata, tandem spiciformis.

CALYX: GLUMA bivalvis, valvis lanceolatis, acuminatis, subæqualibus, carina ad lentem scabriuscula, purpurascentibus, *fig. 1.*

COROLLA bivalvis, glumis calycinis brevior, valvula exteriore majore, longitudine fere calycis, nervosa, nervis duobus plerumque longioribus, hinc apice bifida, *fig. 2*; aristata, arista e basi valvulæ, et ejusdem fere longitudinis, primo recta, *fig. 3*; demum geniculata, valvula interior, minima, *fig. 4*; planiuscula, diaphana, vix germine longior, basi utrinque fasciculo minimo pilorum instructa, *fig. 5.*

STAMINA: FILAMENTA tria, capillaria; ANTHERÆ bifurcæ, purpureæ, *fig. 7.*

PISTILLUM: GERMEN ovatum; STYLI duo, patentés, ad basin usque plumosi, *fig. 8.*

NECTARIUM: GLUMULÆ duo, lanceolatæ, acuminatæ, *fig. 6.*

ROOT perennial, and fibrous.

LEAVES, those next the root numerous, growing in bundles, glaucous, somewhat rigid, bristle-shaped, roundish, grooved on one side, at their base enclosed in sheaths, furnished with a white erect membrane, those of the stalk few, subulate, a little broader than the radical leaves, upright, an inch and a half in length.

STEMS several, from a span to a foot or more in length, nearly upright, having usually three knots, roughish, especially on the upper part.

PANICLE two or three inches long, somewhat closed, finally spike-like.

CALYX: a GLUME of two valves, the valves lanceolate, long-pointed, nearly equal, the keel rough when magnified, purplish, *fig. 1.*

COROLLA of two valves, shorter than the glumes of the calyx, the outer valve largest, nearly the length of the calyx, ribbed, two of the ribs usually longer than the rest, which gives to the tip a bifid appearance, *fig. 2*; awned, awn springing from near the base of the valve, and nearly of the same length, at first straight, *fig. 3*; finally jointed, the inner valve very minute, *fig. 4*; scarcely longer than the germen, furnished at its base on each side with a very minute tuft of hairs, *fig. 5.*

STAMINA: three FILAMENTS, capillary; ANTHERÆ purple, *fig. 7.*

PISTILLUM: GERMEN ovate; STYLES two, spreading, feathery quite to the base, *fig. 8.*

NECTARY: two minute GLUMES, lanceolate, long-pointed, *fig. 6.*

In the several catalogues of plants published by me at different periods, I have long since given to this very distinct species of *Agrostis* the name of *setacea*, or *Sheep's fescue-leaved*, the foliage being much finer than that of any other of our British species, and considerably resembling that of the Sheep's Fescue grass; regarding this name as more expressive than that of *alpina*, which was perhaps previously given it by SCOPOLI, I am not inclined to alter it, more especially as GMELIN has also an *alpina*, which, if we pay any regard to his figure of reference, is not our plant.

The first information I received of this grass was from my Gardener, ROBERT SQUIBB, who sent me up some tufts of it from Piddletown-Heath, Devonshire, where his relations lived; I have since found it to be one of the most common plants of that county, and Cornwall, there being scarcely a heath in either on which it does not abound; I have found it also plentifully on Bagshot-Heath, but not in the neighbourhood of London; LORD GAINSBOROUGH observed it near Lymington, Hampshire.

It flowers in July and ripens its seeds in August.

Readily as it grows in its wild state, I have not been able to keep it alive in my garden without planting it in bog earth, and bestowing unusual care on it.

The peculiarity of its place of growth, the fineness of its glaucous leaves, the closeness of its panicle, the length of its arista, so closely embraced is one of the valves of the calyx as to appear at first as if proceeding from it, which we have never observed to be wanting, joined to other characters noticed in the description, sufficiently point it out to the most common observer.

As an agricultural plant, it does not appear to have much to recommend it; where it abounds, it must constitute much of the sheep feed.





1 2 3 4 5 6 7

Sira aquatica.

AIR

RADIX
CULM

FOLIA

PANIC

SPICU

CALY

CORO

STAN

PIST

NEC

SEM

TI

in ge

Aira

how

creep

thro

a fo

cept

grat

the

like

are

I

V

not

spe

tra

for

ca

co

F

P

AIRA AQUATICA. SWEET - TASTED WATER AIRA.

AIRA *Linnaei Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 2 valvis, 2 florus. *Flosculi* absque interjecto rudimento.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

AIRA *aquatica* panicula patente, floribus muticis lævibus calyce longioribus, foliis planis. *Linnaei Syst. Vegetab. p.* 96. *Fl. Suecic. No.* 68.

POA locustis bifloris; glabris, florali gluma majori plicata, serrata. *Haller hist. No.* 1471.

AIRA *aquatica* *Scopoli Fl. Carniol.* 94. *Hudson Fl. Angl.* 29.

AIRA culmo inferiore repente, flosculis muticis calyce longioribus, altero pedunculato. *Roy. lugdb.* 60.

GRAMEN caninum supinum paniculatum dulce. *Baubin Pin.* 2.

GRAMEN miliaceum aquaticum. *Raii Syn.* 402. *Scheuz. agr.* 218.

GRAMEN miliaceum fluitans suavis saporis. *Merret. Pin.*

RADIX perennis.

CULMUS basi repit, furculosque emittit more Festucae fluitantis qui longe excurrunt et ad geniculos radículas plures albas dimittunt; culmus demum erigitur, pedalis circiter, teres, erectus, fistulosus, tener.

FOLIA latiuscula, tenera, lævia, carinata, vaginæ striatæ, ad basin rubræ præcipue in furculis.

PANICULA erecta, diffusa, laxa, racemi plures ex uno puncto, sæpe flexuosi.

SPICULÆ plerumque biflores, flosculo uno sessili, altero pedunculato, purpurei, apicibus albidis, *fig.* 1.

CALYX: GLUMA bivalvis, valvulis inæqualibus, purpureis, lævibus, Corolla multo brevioribus, *fig.* 2.

COROLLA: GLUMA bivalvis, valvulis æqualibus, subtruncatis, plicatis sive angulatis, *fig.* 3.

STAMINA: FILAMENTA tria capillaria, longitudine Corollæ; ANTHERÆ flavæ, *fig.* 3.

PISTILLUM: GERMEN ovatum; STYLI duo plumosi, *fig.* 4.

NECTARIUM GLUMULÆ duæ minimæ ad basin Germinis, *fig.* 5.

SEMEN ovatum, intra Glumas arcte clausum, *fig.* 7.

ROOT perennial.

STALK creeps at bottom, and sends out young shoots like the Flote Fescue grass, which run out to a considerable distance, and send down small white roots at the joints; it then becomes erect, grows to about a foot in height, is round, hollow, and tender.

LEAVES broadish, tender, smooth, carinated, the sheaths striated, red at bottom, particularly in the young shoots.

PANICLE upright, spreading, loose; branches several, proceeding from one point, frequently crooked.

SPICULÆ generally contain two flowers, one of which is sessile, and the other stands on a foot-stalk, purple, the tips white, *fig.* 1.

CALYX: a GLUME of two valves the valves unequal, purple, smooth, and much shorter than the Corolla, *fig.* 2.

COROLLA: a GLUME of two valves, the valves equal, as if cut off at top, folded or angular, *fig.* 3.

STAMINA: three capillary FILAMENTS the length of the Corolla; ANTHERÆ yellow, *fig.* 3.

PISTILLUM: GERMEN oval; STYLES two and feathery, *fig.* 4.

NECTARY two very minute GLUMES at the bottom of the Germen, *fig.* 5.

SEED oval, closely contained within the Glumes, *fig.* 7.

The same soil and situation which produces the *Festuca fluitans*, is productive also of this grass; they both grow in gently flowing streams, or in wet boggy meadows; this circumstance may serve among others to distinguish the *Aira aquatica* from some of the *Poa's*, with which at first sight the young botanist might easily confound it: it has however besides this, many other characters which point it out more obviously. The bottom of the stalk usually creeps on the ground, and when it gets into the water, it runs out like the *Festuca fluitans* to a considerable distance, throwing off roots and young shoots as it passes along, very much in the manner of that grass: the stalk grows about a foot or more in height, is hollow, and remarkably tender; the leaves are broader than any of the *Poa's*, except the *Poa aquatica*, which is in every respect a much stronger plant: but what more especially characterizes this grass, is the purple or blueish colour of the Panicles, which is discernible even at a distance; and the sweet taste of the flowers if drawn through the mouth, whence this grass has acquired the name of *dulce*. Its parts of fructification likewise above described, distinguish it very strongly: when dried and placed between papers, the flowers and seeds are very apt to fall off.

It flowers in June and July, and may be found almost every where in the situations above-mentioned.

With respect to its uses in rural œconomy, it is in every respect inferior to the *Flote fescue* grass, consequently not worth cultivating for the use of cattle.

In a country like ours, where cultivation has made a considerable progress, the water plants are confined to a small space compared to what they occupied in a state of nature; the draining of bogs and lakes has rendered many large tracts in several parts of the kingdom, capable of producing corn and grass adapted to the use of cattle, which were formerly inaccessible to man or beast. We ought not however to look on this or any other plant as made in vain, because we do not immediately see the uses they are applied to: several sorts of water-fowl which abound in uninhabited countries, are expert gatherers of the seeds of the *aquatic* grasses; and no less than five different species of *Musci* or *Flies*, were produced from a few handfuls of the seeds of this grass, which when I gathered it, were doubtless in their Pupa or Chrysalis state: How little do we know of nature's productions!







Aira juncea

Linnaeus

AIRA PRÆCOX. EARLY HAIR-GRASS.

AIRA *Linnaei. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 2-valvis, 2-florus. *Flosculi* absque interjecto rudimento.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

AIRA *præcox* foliis fetaceis; vaginis angulatis, floribus paniculato spicatis, flosculis basi aristatis.

Linnaei Syst. Vegetab. p. 96.

GRAMEN paniculatum minimum molle. *Bot. Monsp. App.*

GRAMEN parvum præcox paniculâ (potius spicâ) laxâ canescente. *Raii Syn. ed. 3. p.* 408. *tab. xxii. fig. 2.*

GRAMEN avenaceum, capillaceum, minimis glumis minimum. *Breynii.*

GRAMEN phalaroides, sparsâ paniculâ minimum angustifolium. *Barrel. Ic. 44. 1. tab. iv. fig. 15.*

Lightfoot. Fl. Scot. p. 95.

Hudson. Fl. Angl. 31. ed. 2. p. 36.

Oeder. Fl. Dan. 383.

RADIX annua, fibrosa.

CULMI plures, simplices, bi aut triunciales, semipedales etiam occurrunt, teretes, læves, erecti.

FOLIA radicalia sæpius linearia, convoluta, marcida; caulina vaginâ breviora, suberecta, paululum recurvata, obtusiuscula; *Membrana* pro ratione folii longa, alba, culmum circumvolvens, in plantis adhuc tenellis notatû digna; *Vagina* striata, subventricosa.

PANICULA coarctata, spiciformis, mollis, semiuncialis, aut uncialis.

SPICULÆ bifloræ, biaristatæ, *fig. 1. auct.*

CALYX: GLUMA bivalvis, valvulæ subæquales, ovato-acute, submembranaceæ, carinâ ad lentem scabrâ, *fig. 2.*

COROLLA: GLUMA bivalvis, valvulæ subæquales, longitudine calycis, altera majori, bicuspidatâ, aristatâ; arista infra medium glumæ posita, corollâ duplo longior, plerumque recta, *fig. 3, 5.*

STAMINA: FILAMENTA tria, capillaria, brevissima: ANTHERÆ minimæ, flavescentes, *fig. 4.*

PISTILLUM: GERMEN oblongum: STYLI duo, ad basin utque ramosi.

SEMEN oblongum, hinc convexum inde concavum, bicuspidatum, aristatum, basi pilosum, *fig. 6, 7.*

ROOT annual, and fibrous.

STALKS several, simple, from two to three inches, sometimes even to six inches high, round, smooth, and upright.

LEAVES, near the root generally linear, rolled up, and withered; those of the stalk shorter than the sheath, nearly upright, but bending a little back, and somewhat blunt; the *Membrane*, for the size of the leaf, long, white, surrounding the stem, strikingly conspicuous in the plant while young; the *Sheath* finely grooved, and bellying a little in the middle.

PANICLE closed together, and resembling a spike, soft, half an inch or an inch in length.

SPICULÆ containing two flowers, each of which has an arista, *fig. 1, magnified.*

CALYX: a GLUME of two valves, the valves nearly equal, oval, and pointed, somewhat membranous, the keel appearing rough when magnified, *fig. 2.*

COROLLA: a GLUME of two valves, nearly equal, of the length of the calyx, one of which is larger than the other, terminated by two long points, and furnished with an arista; the arista growing out from below the middle of the glume, twice the length of the corolla, and generally strait, *fig. 3, 5.*

STAMINA: three FILAMENTS, fine, and very short: ANTHERÆ very minute, and yellowish, *fig. 4.*

PISTILLUM: GERMEN oblong: STYLES two, and branched to the bottom.

SEED oblong, convex on one side, and hollow on the other, having two points, with an arista, hairy at bottom, *fig. 6, 7.*

THE *Aira præcox* is very common on most of our heaths about town, particularly on *Black-heath*.

It flowers in April and May, and ripens its seed in June.

SCHEUCHZER mentions its growing sometimes to the height of fourteen inches, a height it rarely attains with us.





Aira
caryophyllaea

Sp. Pl. Linn. ed. 12.

AIRA CARYOPHYLLEA. SILVER HAIR-GRASS.

AIRA. Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis, 2-florus. Flosculi absque interjecto rudimento.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

AIRA *caryophyllæa*, foliis setaceis, panicula divaricata, floribus aristatis distantibus. Linn. Syst. Vegetab. p. 112. Sp. Pl. p. 97.

AVENA diantha, foliis setaceis, panicula divaricata. Haller Hist. n. 1482.

AIRA foliis setaceis, panicula trichotoma, floribus aristatis divergentibus. Hudson Fl. Angl. ed. 2. p. 36.

CARYOPHYLLUS arvensis glaber minimus. Baub. Pin. 210.

GRAMEN paniculatum purpuro-argenteum, locustis parvis annuum. Hist. Ox. III. 200. t. 5. f. 11.

GRAMEN paniculatum, locustis purpuro-argenteis annuum. Raii Syn. p. 407. Small annual fair-panicked Grass.

RADIX annua, fibrosa, fibris paucis, in terram vix descendentibus, unde plantula venti impetu facile eruitur.

CULMUS erectus, spithamæus, et ultra, teres, striatus, foliatus, bitrinodis.

FOLIA setacea, breviora, rigidula, convoluta, erecta, glauca, obtusiuscula: *Vagina* longæ, striatæ, scabriusculæ, marginibus membranaceis albidis; *Membrana* magna, acuminata, demum bifida.

PANICULA divaricata; *Pedunculi* solitarii, in culta planta plerumque gemini, longi, ramosi, trifidi, glabri; *Pedicelli* breves, parum flexuosi; *Flores* distantes.

CALYX: *Gluma* biflora, bivalvis, valvulis ovato-lanceolatis, acutis, æqualibus, albidis, nitidis, basi subpurpurascens, fig. 1.

COROLLA bivalvis, valvulæ sessiles, subæquales, calyce vix breviores, virentes, acutæ, exteriore aristata, fig. 2. *Arista* prope basin egrediens, recta, alba, calyce dimidio longior, fig. 3.

STAMINA: FILAMENTA 3, capillaria, longitudine fere floris; ANTHERÆ oblongæ, utrinque furcatæ, fig. 4.

PISTILLUM: GERMEN ovatum; STYLI 2, patentes, plumosi, fig. 5.

SEMEN subovatum, tectum, fig. 6. denudatum.

ROOT annual, fibrous, fibres few, penetrating but a little way into the earth, whence the plant by the violence of the wind, is easily forced out of the ground.

STALK upright, about a span high, round, striated, leafy, with two or three joints.

LEAVES setaceous, short, somewhat rigid, the edges rolled in, upright, glaucous, a little blunt: *Sheaths* long, striated, roughish, the edges membranous and white; the *Membrane* large, long-pointed, finally bifid.

PANICLE divaricated; *Peduncles* growing singly, in the cultivated plant usually two together, long, branched, trifid, and smooth; *Pedicles* short, somewhat crooked; *Flowers* distant.

CALYX: a *Glume* of two flowers, two-valved, the valves ovato-lanceolate, acute, equal, whitish, glossy, purplish at the base, fig. 1.

COROLLA two-valved, valves sessile, nearly equal, a little shorter than the calyx, greenish, pointed, the outer one awned, fig. 2. *Awn* proceeding from near its base, straight, white, longer by one half than the calyx, fig. 3.

STAMINA: 3 capillary FILAMENTS, nearly the length of the flower; ANTHERÆ oblong, forked at each end, fig. 4.

PISTILLUM: GERMEN ovate; STYLES 2, spreading, and feathery, fig. 5.

SEED somewhat ovate, covered with the corolla, fig. 6. denuded.

The *Aira caryophyllæa* is found with us in situations nearly similar to those of the *Aira præcox*, already figured, viz. on sandy, barren heaths, and sometimes in fallow fields; it is not, however, to be met with in the same profusion, nor to be found with the same certainty.

It flowers in May and June, and as it is an annual, unless it be sought for about its flowering season, it will not easily be discovered.

Our figure represents the plant as it is usually found in its wild state; in richer soils it grows much larger, and in tufts of a considerable size.

We have no other *Aira* for which it can easily be mistaken, the *flexuosa* which frequently grows in the same situations is a perennial, and usually twice or thrice as high, its spiculæ also are larger, and more silvery, the *præcox* on the contrary is a smaller plant, and has a much closer panicle.

We never could discover the propriety of Mr. STILLINGFLEET's figuring this plant among his grasses; what has such a very insignificant annual to do with the improving of meadows and pastures?





Melica nutans

S. Edwards del. F. Noyes sc.

MELICA NUTANS. MOUNTAIN MELIC-GRASS.

MELICA Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis, 2-florus. Corpusculum pedicellatum inter flosculos. Nectarium monophyllum. Stamina basi dilatata. Linn. Syst. Nat. ed. 13. Gmelin.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

MELICA *nutans*, petalis imberbibus, panicula nutante simplici. Linn. Syst. Vegetab. ed. 14. Murr. p. 112. Sp. Pl. ed. 3. p. 98. Flor. Suec. ed. 2. p. 26. Scopoli Carn. ed. 2. p. 67. Lightf. Scot. v. 1. p. 95. Leers Herb. p. 25. Schreb. Agrost. p. 63. ic. 6.

MELICA *montana* petalis imberbibus, panicula coarctata, secunda, erecta, subsimplici, floribus pendulis. Hudson Fl. Angl. ed. 2. p. 37.

POA panicula laxa, locustis nutantibus dianthis, alterno flosculo imperfecto. Haller Hist. n. 1472.

GRAMEN montanum avenaceum, locustis rubris. Baub. Pin. 10.

RADIX	perennis, fibrosa, subrepens.	ROOT	perennial, fibrous, somewhat creeping.
CULMI	pedales aut sesquipedales, simplices, erecti, foliosi, scabri, striati, subangulosi, inferne purpurei.	STALKS	a foot or a foot and a half high, simple, upright, leafy, rough, striated, somewhat angular, below purplish.
FOLIA	ad basin culmi brevia, squamæformia, fuscescentia, sicut ascendunt, longiora et angustiora evadunt; scabriuscula, lineam cum dimidia lata.	LEAVES	at the base of the stalk short, scale-like, brownish, as they ascend becoming longer and narrower, a line and a half broad, and slightly rough.
LIGULA	nulla.	MEMBRANE	at the base of the leaf wanting.
PANICULA	bi-triuncialis, subnutans, secunda, simplex, vel ramosa; pedunculis capillaribus, rachis subappressis, flexuosis, erectis, ad lentem villosis, præcipue ad flores ubi paululum incrassantur.	PANICLE	two or three inches long, bending down a little, with the flowers inclining one way, simple or branched; peduncles capillary, pressed to the rachis, crooked, upright, villous if magnified, especially at the flower, where they are somewhat thickened.
SPICULÆ	plerumque trifloræ, rudimento flosculi pedicellato clavato, fig. 3.	SPICULÆ	usually three-flowered, rudiment of the floret forming a sort of club, fig. 3.
CALYX	: Gluma bivalvis, valvulis inæqualibus, ovatis, obtusis, obsolete nervosis, primo purpureis, demum fuscescentibus. fig. 1.	CALYX	: a Glume of two valves, valves unequal, ovate, blunt, faintly ribbed, at first purple, lastly of a brownish hue, fig. 1.
COROLLA	: Gluma bivalvis, valvulis inæqualibus, exteriore magna, concava, ovata, multinervia, nervis plerisque mediam valvulæ vix attingentibus; interiore lata, plana, multo brevior, fig. 2.	COROLLA	: a Glume of two valves, valves unequal, the outer one large, concave, ovate, many-ribbed, most of the ribs scarcely reaching half its length; the inner one broad, flat, and much shorter, fig. 2.
STAMINA	: FILAMENTA 3 capillaria, distincta; ANTHERÆ flavæ, fig. 4. 8.	STAMINA	: 3 capillary FILAMENTS, quite distinct; ANTHERÆ yellow, fig. 4. 8.
GERMEN	: lato-ovatum, pellucidum; STYLI duo, inferne nudi, superne plumosi, patentes, fig. 6. 9.	GERMEN	: of a broad ovate form, and pellucid; STYLES two, naked below, above feathery, and spreading, fig. 6. 9.
NECTARIUM	: Glumule duæ, carnosæ, truncatæ, fig. 7.	NECTARY	: two little Glumes, fleshy, and truncated, fig. 7.

This elegant species of *Melica* inhabits rocky and shady situations in the more Northern parts of Europe; Mr. HUDSON mentions it as growing in the mountainous woods of Yorkshire, Westmoreland, and Cumberland; Mr. LIGHTFOOT plentifully in Scotland; we observed it abundantly in Grass-Wood, near Grassington, in the neighbourhood of Kilnsey, Yorkshire, a most romantic spot, and fertile in rare plants.

It flowers in July and August.

Mr. LIGHTFOOT observes that it varies with flowers nearly sessile, growing in a spike instead of a panicle.

LEERS description and delineation of the minute parts of the fructification in this species, contrary to what we generally find in his excellent work, distinguished and much depended on for its accuracy, are very erroneous; the filaments are not united at the base, nor is the nectary formed of one entire circular piece, but of two, having the appearance indeed of one, separable on a nice dissection; they do not entirely surround the germen; it is the more necessary to notice this circumstance, as it appears to have misled Professor GMELIN, who makes the *Nectarium monophyllum* a part of the generic character in the *Melica*. Professor SCHREBER's magnified representation of the nectary, to which the same fault is imputable, may have contributed its share also.

SCHREBER, HALLER, and SCHEUCHZER, refer to the *gramen montanum spicatum* of CLUSIUS for our plant, but it accords so ill with it, both as to figure and description, that we suspect that author must have meant some other plant.

Genera undoubtedly run into one another, but surely there is a wide difference between the fructification of this plant and that of a *Poa*, to which it is referred by Baron HALLER, and of an *Aira*, to which Professor GMELIN hints that it might be joined.

This species of *Melica* is easily cultivated by parting and planting out its roots in autumn, it is to be admired for its elegance, but has little pretensions to be regarded for its utility.





Melica carulea.

MELICA CÆRULEA. BLUE MELIC-GRASS.

MELICA *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 2-valvis, 2-florus. *Rudimentum* floris inter flosculos.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

MELICA *cærulea* panicula coarctata floribus cylindricis. *Lin. Syst. Vegetab.* p. 113.

AIRA *cærulea* foliis planis, panicula coarctata, floribus pedunculatis muticis convoluto subulatis. *Lin. Sp. Pl.* 95. *Fl. Suec.* n. 67.

POA spiculis subulatis panicula rara contracta. *Fl. Lapp.* 29.

AIRA *cærulea.* *Scopoli Fl.* n. 91.

GRAMEN arundinaceum enode minus sylvaticum. *Bauh. Pin.* 7. *Scheuch Agrofl.* 209.

GRAMEN pratense ferotinum, panicula longa purpurascens. *Raii hist.* 1288. *Morif. hist.* 3. p. 201. f. 8. t. 5. f. 22.

GRAMEN pratense spica Lavendulæ. *Merr. Pin.* 5. *Raii Syn.* 404. *Hudson. Fl. Angl. ed.* 2. p. 33. *Lightfoot Fl. Scot.* p. 96.

RADIX perennis, fibrosa, fibris crassis, albidis seu fuscescentibus, flexuosis, villosis.	ROOT perennial, fibrous, thick, whitish or brownish, crooked and villous.
CULMUS pedalis, sesquipedalis, aut bipedalis, basi sub-bulbosus, erectus, unico tantum nodo, eoque prope basin instructo, superne nudus, lævis.	STALK a foot, a foot and a half, or two feet high, somewhat bulbous at the base, upright, having only one knot, and that near the base, above naked and smooth.
FOLIA plerumque tria, aut quatuor, palmaria, et ultra, ex cæruleo virescentia, latiuscula, acuminata, rigidula, inferiora plana, superiora subconvoluta, ad margines pilosa, Membrana nulla, Vagina brevis, striata.	LEAVES for the most part three or four, about a hand's-breadth in length, of a blueish-green colour, rather broad, long-pointed, stiffish, the lower ones flat, the upper ones somewhat rolled up, hairy at the edges, Membrane none, Sheath short and striated.
FLORES paniculati.	FLOWERS growing in a panicle.
PANICULA palmaris, et ultra, ramosa, ramis appressis, hinc subspicata.	PANICLE a hand's-breadth or more in length, branched, the branches closing together so as to form a kind of spike.
SPICULÆ bifloræ, trifloræ, et quadrifloræ, sæpius vero trifloræ, fig. 1, 2, 3, cum rudimento flosculi in plerisque, fig. 4, 5, juniores compressæ, adultæ teretiusculæ, obtusæ, paululum divergentes.	SPICULÆ containing two, three, and four flowers, but most commonly three, fig. 1, 2, 3, with a rudiment of a flower in most of them, fig. 4, 5, the young ones flattened, the full-grown ones roundish, obtuse, slightly diverging.
CALYX bivalvis, valvulæ subæquales, acutæ, carinatae, ad margines purpureæ, fig. 6.	CALYX composed of two valves, the valves nearly equal, pointed, keeled, the edges purple, fig. 6.
COROLLA bivalvis, valvulæ subæquales, exteriore majore, interiorem amplectente, trinerve, submucronatâ, ad margines purpureâ, interiore binerve, pallidiore, obtusa, paulo brevior, fig. 7.	COROLLA composed of two valves, the valves nearly equal, the outer one, which is largest, embracing the inner one, three-ribb'd, slightly pointed, the edges purple, the inner valve two-ribb'd, paler, obtuse, and a little shorter, fig. 7.
NECTARIUM: SQUAMULÆ duæ, brevissimæ, latæ, truncatæ, emarginatæ, fig. 8.	NECTARY: two very short, broad, truncated, emarginate SCALES, fig. 8.
STAMINA: FILAMENTA tria, capillaria; ANTHERÆ bifurcæ, purpureæ, fig. 11.	STAMINA: three capillary FILAMENTS; ANTHERÆ forked at each end, and purple, fig. 11.
PISTILLUM: GERMEN minimum, glabrum, sub-ovatum; STYLI duo, ramosi, ad basin usque purpurei, fig. 9, 10.	PISTILLUM: GERMEN very minute, smooth, and somewhat ovate; STYLES two, branched down to the bottom, and purple, fig. 9, 10.

Our readers, on perusing the above description, will quickly perceive, that this grass does not accord, in every respect, with the characters of a *Melica*; it has, in general, too many flowers: yet, as the essential part, the *rudimentum flosculi*, is found in most of the Spiculæ, it cannot, perhaps, be more judiciously arranged.

LINNÆUS, at different periods, appears to have entertained a different opinion of it: in his *Flora Laponica*, he considers it as a *Poa*; in his *Species Plantarum* and *Flora Suecica*, as an *Aira*; and, lastly, in his *Systema Vegetabilium*, makes it a *Melica*.

If the Spiculæ be examined when the plant is young, they are certainly very *Poa*-like, being pointed, flattened, and containing usually from three to five flowers; as they advance, their form alters, they become rounder, and more like the flowers of the *Aira aquatica*: if the *rudimentum flosculi* were wanting, it would be difficult to say with which of the two genera it should be placed; that being present, the difficulty vanishes, and we class it at once with the *Melica*.

Two striking peculiarities distinguish this grass: the stalk has only one knot, and that near its base; and not only its stamina, but its stigmata also, are of a deep purple colour.

MERRET's name of *Gramen Spica Lavendulæ*, is very expressive of its appearance when in flower.

It is a very common grass on wet moors and heaths, and flowers from July to the end of September; it is harsh and late, and therefore does not seem at all adapted to agricultural purposes; it varies greatly in size.

Mr. LIGHTFOOT, in his *Flora Scotica*, informs us, that in the Isle of Skie, the fishermen make ropes for their nets of this grass, which they find by experience will bear the water well without rotting. SCHEUCHZER says, that besoms are sometimes made of the straws.





Melica uniflora.

MELICA UNIFLORA. SINGLE-FLOWERED MELIC-GRASS.

MELICA *Lin. Gen. Pl. TRIANDRIA DIGYNIA.*

Cal. bivalvis, biflorus, rudimentum floris inter flosculos.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

MELICA *uniflora* panicula rara, calycibus bifloris, flosculo altero hermaphrodito, altero neutro. *Retzii Fasc. Obs. Bot. 1. p. 10. n. 9.*

GRAMEN avenaceum locustis rarioribus. *Baub. Pin. p. 10.*

GRAMEN avenaceum spica mutica rariore gluma. *Hist. Ox. III. t. 7. f. 49.*

GRAMEN avenaceum nemorense, glumis rarioribus ex fusco xerampelinis. *Raii Syn. p. 403.*

GRAMEN avenaceum rariore grano nemorense danicum. *Lob. Ad. P. Alt. p. 465. ic I. B. p. 434.*

MELICA *nutans* petalis imberbibus, panicula secunda nutante, gluma uniflora. *Hudson. Fl. Angl. ed. 2. p. 37. Lightfoot Fl. Scot. p. 95.*

RADIX perennis, fibrosa.

CULMUS simplex, sesquipedalis et ultra, foliosus, ubi vaginis foliorum tegitur subangulosus, scaber, striatus, ad basin fordide purpureus.

FOLIA caulina quinque circiter, e flavo viridia, plana, lineam unam cum dimidia aut duas fere lata, in acutum mucronem sensim attenuata, si digiti deorsum ducantur aspera, superne subpilosa, marginibus ad lentem minutissime serratis, membrana brevissima, vix ulla, at quod valde singulare, et notatū dignum, foliolum ovato-acuminatum, erectum, coloratum, ex anteriore parte oris vaginæ oritur, nemine antehac, ne cl. *Retzio* observatum, *fig. 8.*

FLORES paniculati.

PANICULA rara, pedunculis inferioribus geminis altero brevior, trifloris, etiam septem aut octo floris in hortis culta, superioribus solitariis.

SPICULÆ pedicellatæ, primo atro-purpureæ, muticæ, bifloræ.

CALYX: Gluma bivalvis, biflorus, coloratus, nitidus, valvula exterior majore, ovata, concava, quinque nervi, submucronata, interiore minore, ovato-lanceolata, trinervi, *fig. 1.*

FLOS *hermaphrod.* sessilis, valvula exterior magna, ventricosa, marginibus interiorem amplectens, quæ planiuscula, marginibus membranaceis reflexis, præcipue prope basin, *fig. 2, 3.*

sterilis pedunculatus, imperfectus, *fig. 9.*; idem evolutus, *fig. 10.*

STAMINA: FILAMENTA tria, capillaria, brevissima. ANTHERÆ flavescens utrinque bifurcatæ, *fig. 4.*

PISTILLUM: GERMEN ovatum, glabrum, nitidum, flavescens. STYLI duo basi discreta, divaricata. STIGMATA villosa, *fig. 5.*

NECTARIUM: Squamula minima, integra, ad basin germinis, *fig. 6.*

SEMEN ovatum, nitidum, majusculum, nigricans, *fig. 7.*

ROOT perennial and fibrous.

STALK simple, a foot and a half or more in height, leafy, where it is covered with the sheaths of the leaves somewhat angular, rough and striated, at bottom of a dull purple colour.

LEAVES of the stalk about five in number, of a yellowish-green colour, flat, a line and a half or almost two lines broad, terminating gradually in a point, rough if drawn backwards betwixt the fingers, on the upper side somewhat hairy, the edges of the leaves when magnified finely serrated, the membrane very short, scarce any; but what is very remarkable and worthy notice, a small ovate leaf with a long point, upright, and coloured, rises from the fore-part of the mouth of the sheath, till now unobserved even by the celebrated *Retzius*, *fig. 8.*

FLOWERS growing in a panicle.

PANICLE loose, the lowermost flower-stalks growing two together, the one shorter than the other, bearing three flowers, and even seven or eight when cultivated in gardens, the uppermost growing singly.

SPICULÆ standing on little foot-stalks, at first of a dark purple colour, beardless, each containing two flowers.

CALYX: a Glume of two valves, containing two flowers, coloured and shining, the outermost valve ovate, hollow, having five ribs, and terminated by a short point, the innermost least, ovato-lanceolate, and three-ribbed, *fig. 1.*

FLOWER: the *hermaphrodite* one sessile, the outer valve large, bellying out, with its edges embracing the inner one, which is flattish, the edges membranous and turned back, especially near the base, *fig. 2, 3.*

the *sterile* flower standing on a foot-stalk, and imperfect, *fig. 9.*; the same unfolded, *fig. 10.*

STAMINA: three FILAMENTS, capillary and short. ANTHERÆ yellowish and forked at each end. *fig. 4.*

PISTILLUM: GERMEN ovate, smooth, shining, and yellowish. STYLES two, separate at bottom and spreading out. STIGMATA villous, *fig. 5.*

NECTARY: a very minute, entire scale, at the base of the germen, *fig. 6.*

SEED ovate, shining, rather large and blackish, *fig. 7.*

This elegant species, long since noticed and described by many of the old Botanists, particularly RAY, has been overlooked by LINNÆUS. Professor RETZIUS*, in the first fasciculus of his botanical observations, describes it anew, and gives it the name of *uniflora*, having found each spicula to contain only one perfect flower. This name we therefore most readily adopt. Mr. HUDSON, in his *Flora Anglica*, has mistaken this plant for the *nutans* of LINNÆUS; and to the *nutans* has given the name of *montana*.

The delicacy and striking colour of its panicle, joined to its place of growth, readily distinguishes it from all our other grasses.

It grows plentifully in most of the woods near London, and flowers in May and the beginning of June.

* Andr. Joh. Retzii Fasciculus Observationum Botanicarum primus, cum figuris æneis, Lipsiæ, 1779.







Poa aquatica.

POA AQUATICA. WATER MEADOW GRASS.

POA *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 2-valvis, multiflorus. *Spicula* ovata: valvulis margine scariosis acutiusculis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

POA *aquatica* panicula diffusa, spiculis sexfloris linearibus. *Lin. Syst. Vegetab.* p. 97. *Sp. Pl.* p. 98. *Fl. Succ. n.* 26.

POA altissima, foliis latissimis, panicula amplissima, locustis distichis multifloris. *Haller hist. n.* 1454.

POA *aquatica.* *Scopoli Fl. Carn. n.* 105.

GRAMEN aquaticum paniculatum latifolium, *Bauh. Pin.* 3.

GRAMEN aquaticum majus. *Ger. emac.* 6. *Raii Syn.* p. 411. Great Water-Reed-Grass. *Hudson Fl. Angl. ed. 2. p.* 38.

RADIX perennis, repens.

CULMUS tripedalis, ad sepedalem, erectus, foliosus, crassitie culmi arundinacei, superne ubi nudus, teres, lævis, subtilissime striatus; geniculis flavescens.

FOLIA semunciam aut unciam fere lata, utrinque glabra, tenuissime striata, carinata, carina marginibusque asperis, ad basin folii utrinque macula triangularis flava, vagina glabra, striata, carina prominente, membrana brevis obtusa.

PANICULA maxima, semipedalis, aut pedalis, erecta, ramiflora.

PEDUNCULI subtriquetri, scabri, superne flexuosi.

SPICULÆ lanceolatae, subcompressae 6—8. florae, colore ex spadiceo et viridi misto.

CALYX: Gluma bivalvis, valvulae membranaceae, uninerviae, ovatae, concavae, interiore brevior et acutior.

COROLLA bivalvis, valvulae subaequales, obtusae, exteriore majore, concava, nervosa, ad basin tuberculata, interiore planiuscula.

STAMINA: FILAMENTA tria, alba, capillaria; ANTHERAE oblongae, utrinque bifidae, flavae aut purpureae.

PISTILLUM: GERMEN ovatum, glabrum; STYLII duo, superne ramosi, inferne nudi, paulo infra apicem prodeuntes.

NECTARIUM: squamula parva truncata ad basin germinis.

SEMEN tectum, hinc convexum, striatum, inde concavum, pallide fuscum.

ROOT perennial, and creeping.

STALK from three to six feet high, upright, leafy, the thickness of a reed straw, on the upper part where it is naked, round, smooth, very finely grooved; the joints yellowish.

LEAVES half an inch and almost an inch broad, smooth on both sides, very finely grooved, keeled, the keel as well as the edges rough, the base of the leaf on each side is marked with a yellow triangular spot, the sheath is smooth and striated, the keel prominent, the membrane short and obtuse.

PANICLE very large, from six inches to a foot in length, upright, very much branched.

FLOWER-STALKS somewhat three-cornered, rough, crooked above.

SPICULÆ lanceolate, somewhat flattened, containing from six to eight flowers, variegated with green and purple.

CALYX: a Glume of two valves, the valves membranous, one-ribbed, ovate, concave, the innermost shorter and more pointed than the other.

COROLLA composed of two valves, which are nearly equal, obtuse, the outer one largest, concave, ribbed, with a small tubercle at the base, the inner one nearly flat.

STAMINA: three, white, capillary FILAMENTS; ANTHERAE oblong, bifid at each end, yellow or purple.

PISTILLUM: GERMEN, ovate, smooth; STYLES two, branched above, naked below, proceeding from a little below the top.

NECTARY: a small truncated scale at the base of the germen.

SEED covered, convex and striated on one side, concave on the other, of a pale brown colour.

The *Poa aquatica* is one of the largest as well as the most useful of our grasses; it constitutes a great part of the riches of Cambridgeshire, Lincolnshire, and other counties, where draining the land by means of windmills has taken place; immense tracts of territory that used to be overflowed and produce useless aquatics, but which still retain much moisture, are, by the above process, spontaneously covered with this grass, which not only affords rich pasturage for their cattle in the summer, but forms the chief part of their winter fodder.

It has a powerfully creeping root, and bears frequent mowing well (we have known it cut thrice in one season in the vicinity of the Thames); hence it is apt to gain the ascendancy over, rather than be overcome by other plants.

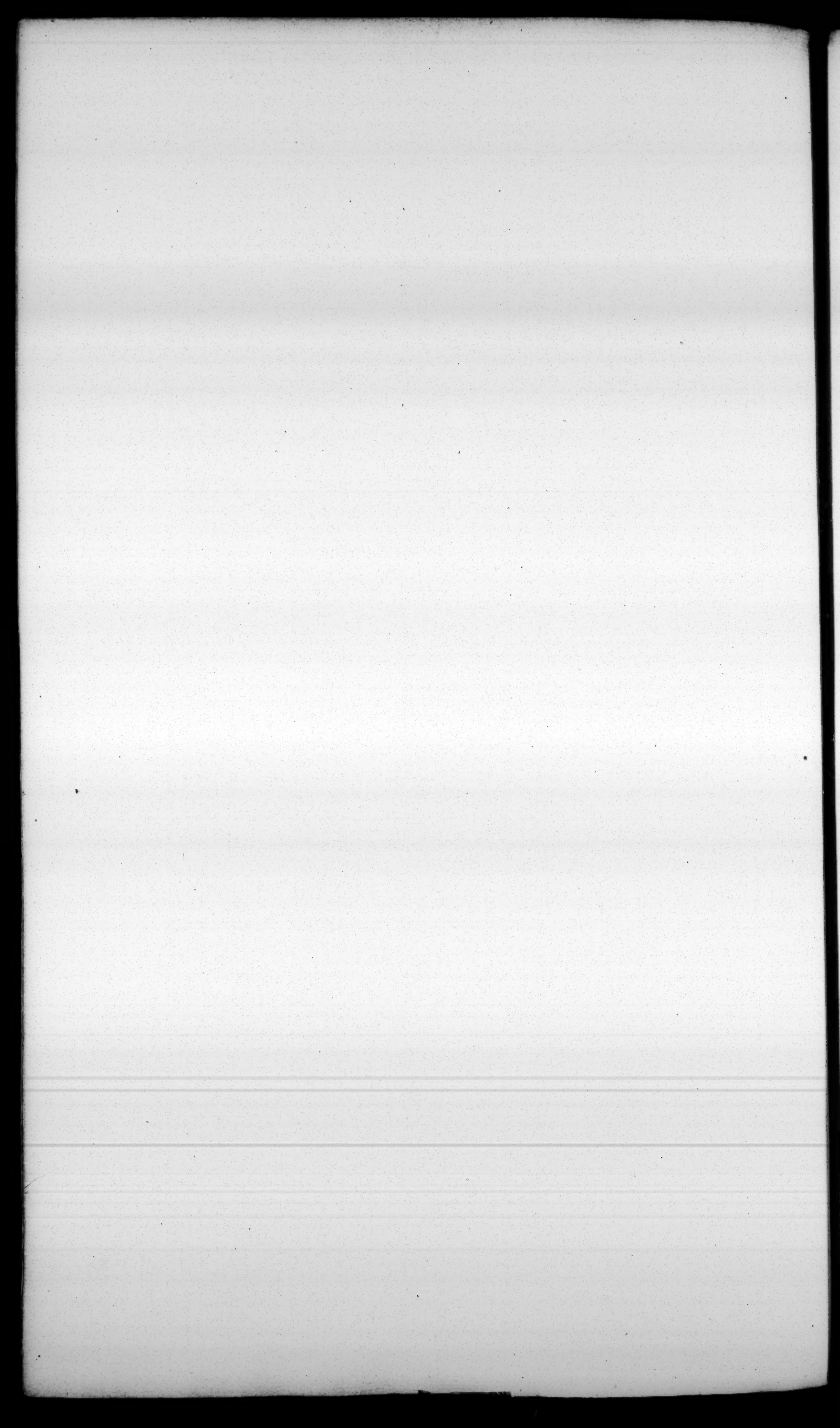
It grows not only in very moist ground, but in the water itself: like the Cats-tails, Burr-reed, and several other plants of that kind, it soon fills up the watery ditches which surround the meadows in which it grows, and occasions them to require frequent cleansing; in this respect it is a formidable plant, even in flow rivers.

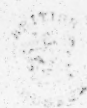
In the Isle of Ely, they have a particular method of cleansing the rivers, which are liable to be soon choked up by the Arrow-head, Water-lilies, Reeds, &c. by means of an instrument called a Bear, which is an iron roller, in which a number of pieces of iron, like small spades, are fixed; this is drawn up and down the river by horses, which travel on the banks, and tearing up every plant by the roots, they float and are carried away by the stream.

The *Poa aquatica* not only affords sustenance to cattle, but is a favourite food of the Caterpillar of the Gold-spot Moth (*Phalaena Festucae*, *Lin.*) which LINNÆUS describes as feeding on the *Festuca fluitans*, but which feeds with us chiefly on this grass: the Moth proceeding from this larva, is one of the most beautiful which this country produces; the Caterpillar being smooth and of a green colour, is not easily distinguished from the grass on which it feeds; when full-grown, it usually bends down the top of one of the leaves, and underneath it, makes a thin spinning, in which it changes to chrysalis; this spinning, from its whiteness, is easily discovered; but we must apprise our readers, that these Caterpillars are not very numerous, and that they will be fortunate if they find one or two after a long search; the Moth, Caterpillar, and Chrysalis, are figured in ALBIN'S English Insects; but a much better painting of the Moth may be seen in ROESEL, *Tom.* 1. *Tab.* 30. We have generally found them at the commencement of harvest, when the wheat has been in sheaf; the Moth comes forth in a week or two.

We observed in the Isle of Ely, a much larger Caterpillar, when full-grown, nearly the size of the *Ph. Potatoria*, hairy and very beautiful, not uncommon on this grass; but not having the proper convenience for breeding it, we are as yet unacquainted with the Moth it produces, but suspect it will prove a non-descript.

The *Poa aquatica* flowers as late as August and September.







Pea pratensis

POA PRATENSIS. SMOOTH STALK'D MEADOW GRASS.

POA *Linnaei* Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis, multiflorus. Spiculæ ovatæ; valvulis margine scariosis, acutiusculis.

Rai Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

POA *pratensis* panicula diffusa, spiculis subquinquefloris, culmo erecto lævi, membrana foliorum obtuso.

POA *pratensis* panicula diffusa, spiculis quinquefloris glabris, culmo erecto tereti. *Linnaei Syst. Vegetab.* p. 97.

Fl. Suecic. 82.

POA *pratensis*. *Scopoli Fl. Carniol.* p. 70. n. 100. *Diagn.* Panicula diffusa spiculæ 2-3 floræ. Glumis inæqualibus, lanugine nulla.

POA panicula diffusa locustis trifloris glabris. *Haller hist. n.* 1465. secundum *Scopoli*.

GRAMEN pratense paniculatum medium. *Raii Syn.* 409, The greater or middle sort of Meadow Grass.

Baubin Pin. 2. pratense minus. *Gerard* 2. *Parkinson* 1156.

RADIX perennis, *repens*, intra terram fissurasque murorum facile penetrans.

CULMI plerumque pedales, erecti, *læves*, vix manifeste striati.

FOLIA lævia, saturate viridia, subinde glauca, membranâ *brevi obtusa* instructa, *fig.* 11.

PANICULA erecta, diffusa.

SPICULÆ ovato-acutæ, plerumque quinquefloræ, etiam bifloræ, utrinque compressæ, *fig.* 1, 2.

CALYX: GLUMA bivalvis, valvulis inæqualibus, acuminatis, concavis, *fig.* 3.

COROLLA: GLUMA bivalvis, valvulæ subæquales, altera concava, carinâ ad lentem visâ scabriuscula, altera planiuscula, *fig.* 4; in fundo calycis *lanugo* observanda, *evulsis flosculis*, *fig.* 3, 5.

STAMINA: FILAMENTA tria, capillaria, glumis longiora: ANTHERÆ utrinque bifurcæ, *fig.* 6.

PISTILLUM: GERMEN ovatum: STYLI duo, ad basin usque ramosi, *fig.* 7.

NECTARIUM: GLUMULÆ duæ ad basin germinis, *fig.* 8, auct.

SEMEN angulosum, acuminatum, basi lanugine instructo, *fig.* 9. nat. mag. *fig.* 10, auct.

ROOT perennial and *creeping*, easily penetrating into the earth and crevices of walls.

STALKS generally about a foot high, upright, *smooth*, scarce perceptibly striated.

LEAVES smooth, of a deep green colour, sometimes blueish, furnished with a *short blunt* membrane, *fig.* 11.

PANICLE upright and spreading.

SPICULÆ oval-pointed, generally with five flowers, sometimes only two, flattened on each side, *fig.* 2.

CALYX a GLUME of two valves, unequal, acuminate and hollow, *fig.* 3.

COROLLA a GLUME of two valves, the valves nearly equal; the one concave, with the keel appearing somewhat rough if magnified; the other flattish, *fig.* 4: in the bottom of the calyx a filamentose or wooly substance is apparent when the flowers are drawn out of it, *fig.* 3, 5.

STAMINA: three FILAMENTS, thread-like, longer than the glumes: ANTHERÆ forked at each end, *fig.* 6.

PISTILLUM: GERMEN oval: STYLES two, branched down to the bottom, *fig.* 7.

NECTARY: two little GLUMES at the base of the germen, *fig.* 8, magnified.

SEED angular and pointed, at bottom wooly, of its natural size, *fig.* 9; magnified, *fig.* 10.

THE *Poa pratensis* and *Poa trivialis* approach very near each other in their general appearance, so much so, indeed, that the botanist who is intimately acquainted with them; cannot, if he sees them grow together, discriminate them at a little distance; and the characters from which modern botanists have drawn their specific differences, have been so vague and indeterminate, that the student is never able to satisfy himself whether he has found the one or the other; yet there are not two grasses which afford more obvious or satisfactory marks of distinction. The difficulty which I have experienced myself in the investigation of these two plants, has made me exceedingly attentive to them; and what I relate is the result of repeated observations, joined to a careful culture of them.

These

These grasses differ chiefly in the following particulars: the *pratensis* is in every part perfectly smooth; while in the *trivialis* the stalk, leaves, sheaths of the leaves, and branches of the panicle, all feel rough if the plant be drawn downward betwixt the thumb and finger: exclusive of this difference, which is a very good one for a common observer, in the *trivialis* the sheath of the leaf is flatter and more deeply fluted: nor do the roots of these two plants differ less; the *trivialis* being simply fibrous; the *pratensis* creeping, and sending out many white shoots: but what distinguishes them most fully and most infallibly, is the difference in the membrane at the bottom of the leaf, where the sheath begins; this in the *pratensis* is very short and blunt; in the *trivialis* it is long and pointed: and the beauty of this distinction is, that it is obvious to the most common observer; nor did I ever know it fail me, let the grass vary ever so much in size and other particulars. They differ also with respect to the size of the spiculæ and the number of flowers contained in each: in the *trivialis* they are either biflorous or triflorous; in the *pratensis* they are most commonly *quinqueflorous*. Such are the most obvious distinctions in the grasses themselves: other circumstances contribute to render them still more so. The *pratensis* grows generally on walls; indeed there is not a wall in any of the villages around town on which it may not be found in abundance: it very frequently occurs on dry banks, and oftentimes in meadows. The *trivialis* is scarce ever found on walls, seldom on dry banks; but most frequently in moist meadows, or the sides of ditches; so that the one grass seems to delight in a dry, the other in a moist situation. They differ somewhat also in the time of their flowering; the *pratensis* flowering about the third week in May, the *trivialis* the first week in June: and there is this remarkable with respect to the flowering of the *pratensis*, that after it has flowered in the Spring, it shews no disposition to flower during the Summer; while the *trivialis* is found in bloom, though not generally, during the whole of the Summer. Added to this, there is a firmness in the stalk of the *pratensis* not perceivable in the *trivialis*. By an attention to these remarks, I trust the young botanist will acquire a clear idea of them, without having recourse to the pubescence, &c. which, though laid so much stress on by LINNÆUS and SCOPOLI, is by no means adequate to the distinguishing of them. Indeed it is difficult to know rightly what they mean by *spiculis basi pubescentibus*, as no pubescence is perceivable in them outwardly: but if one attempts to draw the floscules out of the glumes of the calyx, we perceive a filamentose appearance, which seems to connect the florets and calyx together: but this appearance, which is indeed a very striking and singular one, and which I have not yet observed in any other grasses, takes place nearly in an equal degree in both: this substance adheres to the seed when separated, and causes them to hang to one another as if there were cobwebs among them; so that a person ignorant of the cause, from an examination of such seed, might conclude it old and good for nothing: this appearance is most striking in the *trivialis*. RAY, whose descriptions always accord with nature, and are taken from the most obvious characters of the plant, mentions the roughness, (*Culmi nonnihil asperi*;) but the particular shape of the membrane has not, that I know of, been noticed till now.

The *Poa pratensis* may be considered as a valuable grass, and one of those which ought to enter into the composition of a good meadow or pasture: I say composition, because I imagine every good meadow should be compounded of a variety of grasses, each having peculiar and valuable properties. We are not to expect all that can be wished in a meadow in one grass: some are calculated to produce food, and carry a beautiful verdure even in the depth of winter: some bring forth early shoots, and make choice food for cattle in the spring: some produce a large quantity of sweet tender leaves at bottom; others by the weight and height of their stalks, and of their heads or panicles at top, encrease the weight of the hay: some shoot strongly and produce a large aftermath: some give a more agreeable smell to the hay. So that to have a good meadow, we should have a variety of grasses; and if we may argue from analogy, a variety of food may also be more grateful to cattle.

The principal advantages of the *Poa pratensis* are, that it is a sweet grass, and eaten readily by cattle in general: it carries its verdure in the winter better than most others, and throws out young and numerous shoots in the spring, so as to make good spring food. It produces a good crop of leaves at bottom, which make exceeding fine hay, and is fit for cutting early in the spring.

There is a glaucous or blueish variety of this grass occurs frequently in meadows: it varies also in the number of its floscules, from three to five, or sometimes more: as likewise in its size: when growing on walls or dry banks, it does not reach half the height which it does in fertile meadows.





Poa trivialis

POA TRIVIALIS. ROUGH-STALK'D MEADOW GRASS.

POA *Linnaei* Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis, multiflorus. Spicula ovata: valvulis margine scariosis acutiusculis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

POA *trivialis* panicula diffusa, spiculis subtrifloris, culmo erecto scabro, membranâ foliorum acuminata.

POA *trivialis* panicula diffusa, spiculis trifloris basi pubescentibus, culmo erecto tereti. *Linnaei Syst.*

Vegetab. p. 97.

GRAMEN pratense paniculatum medium. *Baubin pin. 5. Raii Syn. p. 409. n. 2.*

POA *trivialis. Scopoli Fl. Carniol. p. 69. n. 39. Diagn. Lanugo ad basin petali exterioris.*

POA panicula diffusa locustis trifloris villosis. *Haller hist. n. 1562. secundum Scopoli.*

GRAMEN pratense minus. *Parkinson 1156. Gerard emac. 2. Hudson Fl. Angl. p. 33.*

RADIX fibrosa, capillacea.

CULMUS erectus, pedalis ad bipedalem, basi repens, unde perenne evadit hoc gramen, striatus, scabriusculus, sæpe purpureus.

FOLIA: VAGINA subcompressa, striata, scabriuscula: MEMBRANA ad basin foliorum longa, acuminata, fig. 1; folia ipsa longa, scabriuscula, subtus nitida, tenera.

PANICULA erecta, diffusa.

SPICULÆ parvæ, bifloræ, aut trifloræ, (fig. 2. 2. magn. nat. fig. 3. 3. lente auct.) nonnunquam etiam quadrifloræ, ovato-acuminatæ, subcompressæ.

GLUMÆ calycinæ bivalves, valvulis inæqualibus, acuminatis, carinatis, carinâ scabrâ, fig. 4. Si glumæ corollacæ ex calycinis glumis extrahantur, lanugo (fig. 9.) conspiciatur, huic et *Poa pratensis* quousque observavi propria.

GLUMÆ corollacæ bivalves, valvulis subæqualibus, acutis.

STAMINA: FILAMENTA tria capillaria, glumis paulo longiora, fig. 6: ANTHERÆ flavæ aut purpurascens, demum utrinque furcatæ, fig. 6.

PISTILLUM: GERMEN minimum, ovatum: STYLI duo ad basin fere plumosi, fig. 7.

NECTARIUM: GLUMULÆ duæ teneræ ad basin germinis, fig. 8.

SEMEN oblongo acuminatum, angulosum, basi lanugine instructum, fig. 10.

ROOT fibrous and capillary.

STALK upright, from one to two feet high, creeping at bottom, whence this grass becomes perennial, striated, rough, and often purple.

LEAVES: the SHEATH flattish, striated, roughish; the MEMBRANE at the base of the leaf long, and pointed, fig. 1: the leaves themselves long, somewhat rough, shining underneath, and tender.

PANICLE upright and spreading.

SPICULÆ small, containing two or three flowers, (fig. 2. 2. of their natural size, fig. 3. 3. magnified) and sometimes even four flowers, of an oval pointed shape, and flattish.

GLUMES of the Calyx composed of two valves, which are unequal, pointed, and have the keel, or rib on the back, rough, fig. 4. If the glumes of the corolla are drawn out of the glumes of the calyx, a woolly substance (fig. 9.) is observable, and which, as far as I have hitherto noticed, is peculiar to this Grass and the *Poa pratensis*.

GLUMES of the corolla of two valves, the valves nearly equal and pointed, fig. 3.

STAMINA: three capillary FILAMENTS a little longer than the glumes, fig. 6: ANTHERÆ yellow or purplish, finally becoming forked at each end, fig. 6.

PISTILLUM: GERMEN very small and oval: STYLES two, feathered almost to the bottom, fig. 7.

NECTARY: two little tender GLUMES at the bottom of the germen, fig. 8.

SEED oblong and pointed, angular, and furnished with a woolly substance at bottom, fig. 10.

THE means of distinguishing this Grass from the *Poa pratensis*, (for which it is the most liable to be mistaken) with many other particulars relative to it, we have already given under the latter: considered in an agricultural light, it is certainly one of our best grasses, both for hay and pasturage; indeed a good meadow can scarcely be formed without it. Its chief qualities are, that it produces a large quantity of sweet tender leaves, which are preferred by cattle to most others, and which are convertible into exceeding fine hay. It is an early grass, flowering about the beginning of June. It does not bear the frosts of the Winter so well, nor does it shoot so early in the Spring as the *Poa pratensis*; but when the weather comes to be so warm as to make the grasses in general shoot, this grows faster, and produces a greater crop of bottom leaves, (the most desirable parts of grasses,) than most others.

It grows best in meadows that are tolerably moist: in dry pastures it is often found, but much smaller

Hints relative to the Culture of the Grasses.

When the advantages resulting to the community from the introduction of *Wheat, Barley, Rye, Clover, Tares, St. Foin, Trefoil, &c.* many of which are natives of our own country, daily occur to us: when neither pains nor expence are spared to improve our arable lands, it seems strange that so little care should be taken of the improvement of our meadows and pastures, which might doubtless be made to produce double or treble the crops they already do, by the judicious introduction of proper grasses.

If we examine our meadows, pastures, and downs, we shall find them pretty much in a state of nature, excepting those pastures which of later years have been sown with *Rye Grass* and *Clover*, full of an indeterminate mixture of plants, some of which afford good, others bad food; some good crops, others scarce any crops at all. That I may not be thought to speak at random on this matter, I shall here mention a few facts to corroborate what I have asserted.

My very worthy and much esteemed friend THOMAS WHITE, Esq; with a view to the ascertaining the produce of several downs and hilly pastures fed on by sheep, procured from each of the undermentioned different downs and commons, in Hampshire and Suffex, a turf which, though not larger than about six inches in diameter, and chosen as pure as any part of the pasturage, produced, on being planted in a garden, the following plants.

Turf from *Selborn Common*.

- | | | |
|----|-------------------------------|---------------------------|
| 1 | <i>Plantago lanceolata</i> . | Narrow-leaved Plantain. |
| 2 | <i>Agrostis capillaris</i> . | Fine paniced Agrostis. |
| 3 | <i>Avena flavescens</i> . | Yellow Oat Grass. |
| 4 | <i>Dactylis glomeratus</i> . | Rough Cocksfoot Grass. |
| 5 | <i>Festuca duriuscula</i> . | Hard Fescue Grass. |
| 6 | <i>Poa annua</i> . | Common dwarf Poa. |
| 7 | <i>Cynosurus cristatus</i> . | Crested Dogs-tail. |
| 8 | <i>Trifolium repens</i> . | Creeping or Dutch Clover. |
| 9 | <i>Crepis tectorum</i> . | Smooth Succory Hawkweed. |
| 10 | <i>Achillea Millefolium</i> . | Yarrow. |
| 11 | <i>Galium verum</i> . | Yellow Ladies Bedstraw. |
| 12 | <i>Hypochaeris radicata</i> . | Long-rooted Hawkweed. |
| 13 | <i>Hieracium Pilosella</i> . | Mouse-ear Chickweed. |
| 14 | <i>Thymus Serpyllum</i> . | Wild Thyme. |

Turf from *Oakhanger*.

- | | | |
|---|------------------------------|---------------------------|
| 1 | <i>Trifolium repens</i> . | Creeping or Dutch Clover. |
| 2 | <i>Holcus lanatus</i> . | Meadow Soft Grass. |
| 3 | <i>Poa annua</i> . | Common dwarf Poa. |
| 4 | <i>Agrostis capillaris</i> . | Fine paniced Agrostis. |
| 5 | —— <i>palustris</i> . | Marsh Agrostis. |

Turf from *Deortun*.

- | | | |
|---|-------------------------------|--------------------------------|
| 1 | <i>Ranunculus repens</i> . | Creeping Crowfoot. |
| 2 | <i>Lolium perenne</i> . | Ray Grass or perennial Darnel. |
| 3 | <i>Holcus lanatus</i> . | Meadow soft Grass. |
| 4 | <i>Prunella vulgaris</i> . | Self-heal. |
| 5 | <i>Festuca duriuscula</i> . | Hard Fescue Grass. |
| 6 | <i>Agrostis palustris</i> . | Marsh Agrostis. |
| 7 | <i>Trifolium repens</i> . | Creeping or Dutch Clover. |
| 8 | <i>Crepis tectorum</i> . | Smooth Succory Hawkweed. |
| 9 | <i>Achillea Millefolium</i> . | Yarrow. |

Turf from *Glynd Hill*.

- | | | |
|---|-------------------------------|--|
| 1 | <i>Medicago lupulina</i> . | Black-seeded Medick, Trefoil or Nonfuch. |
| 2 | <i>Achillea Millefolium</i> . | Yarrow. |
| 3 | <i>Poa pratensis</i> . | Smooth-stalk'd Meadow Grass. |

Turf from *Glynd Hill*.

- | | | |
|----|------------------------------|---------------------------|
| 4 | <i>Avena flavescens</i> . | Yellow Oat Grass. |
| 5 | <i>Festuca duriuscula</i> . | Hard Fescue Grass. |
| 6 | —— <i>ovina</i> . | Sheeps Fescue Grass. |
| 7 | <i>Hieracium Pilosella</i> . | Mouse-ear Hawkweed |
| 8 | <i>Agrostis capillaris</i> . | Fine paniced Agrostis. |
| 9 | <i>Trifolium repens</i> . | Creeping or Dutch Clover. |
| 10 | <i>Thymus Serpyllum</i> . | Wild Thyme. |

Turf from *Short Heath*.

- | | | |
|---|------------------------------|------------------------|
| 1 | <i>Festuca bromoides</i> . | Barren Fescue Grass. |
| 2 | <i>Aira præcox</i> . | Early Aira. |
| 3 | <i>Juncus campestris</i> . | Hairy Rush. |
| 4 | <i>Poa annua</i> . | Common dwarf Poa. |
| 5 | <i>Agrostis capillaris</i> . | Fine paniced Agrostis. |

Turf from *Mount Cabron*.

- | | | |
|---|-------------------------------|--|
| 1 | <i>Rumex acetosa</i> . | Common Sorrel Dock. |
| 2 | <i>Daucus carota</i> . | Wild Carrot. |
| 3 | <i>Medicago lupulina</i> . | Black-seeded Medick, Trefoil or Nonfuch. |
| 4 | <i>Poterium sanguisorba</i> . | Burnet. |
| 5 | <i>Festuca duriuscula</i> . | Hard Fescue Grass. |
| 6 | <i>Avena flavescens</i> . | Yellow Oat Grass. |

Turf from *Ringmer Down*.

- | | | |
|----|---------------------------------|------------------------------|
| 1 | <i>Linum catharticum</i> . | Purging Flax. |
| 2 | <i>Scabiosa columbaria</i> . | Sheeps Scabious. |
| 3 | <i>Ornithopus perpusillus</i> . | Bird's-foot. |
| 4 | <i>Avena flavescens</i> . | Yellow Oat Grass. |
| 5 | <i>Festuca duriuscula</i> . | Hard Fescue Grass. |
| 6 | <i>Trifolium repens</i> . | Creeping or Dutch Clover. |
| 7 | <i>Hypochaeris radicata</i> . | Long-rooted Hawkweed. |
| 8 | <i>Crepis tectorum</i> . | Smooth Succory Hawkweed. |
| 9 | <i>Lotus corniculata</i> . | Bird's-foot Trefoil. |
| 10 | <i>Juncus campestris</i> . | Hairy Rush. |
| 11 | <i>Hieracium pilosella</i> . | Mouse-ear Hawkweed. |
| 12 | <i>Festuca ovina</i> . | Sheeps Fescue Grass. |
| 13 | <i>Thymus Serpyllum</i> . | Wild Thyme. |
| 14 | <i>Poa pratensis</i> . | Smooth-stalk'd Meadow Grass. |

These experiments prove that our downs and commons, which we in general consider as more free from weeds than most of our pastures, are altogether an assemblage of different plants; and our meadows are much the same. It must be allowed that there is a considerable difference in them; one meadow, or tract of land, shall naturally contain a greater number of good grasses than another; another shall produce little more than a mixture of unprofitable weeds, such as *Crowfoot*, particularly the creeping sort, *Docks*, *Sorrel*, *Thistles*, *Mallows*, *Yarrow*, *Knapweed*, *Nettles*, *Ragwort*, &c. most of which having strong perennial or creeping roots, continue in the ground, impoverish it, and overrun the few good grasses there are; so that the ground is very little worth. If the ground be manured, the unprofitable and noxious plants are thereby benefited as well as the grasses; for it is the extremity of folly to suppose that manure shall produce good plants if the roots or seeds of them were not in the ground before. It must be allowed, however, that if there be in the meadow any strong growing grasses, they may from manure overtop and destroy many annual plants, but not those above-mentioned, which with many others, will grow with their growth and strengthen with their strength.

But it is not this kind of weed alone, which, perhaps, are the most mischievous; these being visible and known, to the Farmer may be destroyed; but at the same time the ground may be overrun with bad grasses, which not being so easily distinguished by the Farmer, cannot be so readily destroyed. Now grasses may be considered as bad on several accounts: they may, though good in themselves, produce so small a crop as to be worth little or nothing, as the *early* and *silver Hair Grass* and *Wall Poa*: they may, either from their rankness, roughness, or some other qualities not perceptible to us, be such as cattle are not fond of, as *Cats-tail Grass*, *Rough Cocks-foot* and some others: they may die on the ground, and give the meadows a dead and disagreeable appearance in the winter, as some of the species of *Agrostis*: or they may blow late in the summer, and be not fit for cutting 'till most of the good grasses are decayed and gone off: and thus a meadow may be filled with noxious plants as effectually as if they were more evidently so.

Surely then it must be worth the persons while, who would wish to lay down his land for meadow or pasture, or improve what is already bad, to be at some pains and expence about it, and sow it with as much caution as he would to produce a crop of fine Wheat; the more so, indeed, as when his land is once filled with good grasses, it remains a good meadow, or good pasture for ever, which will always look pleasing, and if properly manured, and the season prove not remarkably unfavourable, will each year produce a plentiful crop.

I have already observed, in speaking of the *Poa pratensis*, that a good meadow must consist of a variety of grasses, which ought all to come into bloom nearly at the same time; and if the grasses be of the right kinds, they will begin to blow, and the whole meadow be fit for mowing the last week in May. The advantages of this early hay-making are very considerable: this part of the year is very often extremely favourable in point of weather to the making of hay: it is not postponed so as to interfere with the harvest: cattle may be turned the sooner into the fields to graze; or another crop of hay be produced in good time for the second making.





POA ANNUA. COMMON DWARF POA.

POA *Linnaei Gen. Plant.* TRIANDRIA DIGYNIA.

Raii Synop. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

POA *annua*, panicula diffusa, angulis rectis, spiculis obtusis, culmo obliquo compresso. *Lin. Syst. Vegetab. p. 97. Spec. Plant. ed. 3. p. 99. Fl. Suecic. p. 228.*

POA culmo infracto, panicula triangulari, locustis trifloris glabris. *Haller. hist. Vol. 2. p. 223.*

GRAMEN pratense paniculatum minus. *Baubin. Pin. p. 2*

GRAMEN pratense minimum album et rubrum. *Gerard. emac. 3. Parkinson. 1156.*

GRAMEN pratense minus feu vulgatissimum. *Raii Synop. 408. Hudson. Fl. Angl. p. 34. Scopoli. Fl. Carniol. 71. Stillingfleet. tab. 7*

RADIX annua, fibrosissima.

CULMI plures, cespitosi, semiprocumbentes, in pratis vero inter alias plantas crescentes, subrecti, paululum infracti, semipedales.

VAGINÆ compressæ, ancipites, læves.

FOLIA plurima, brevia, carinata, glabra, sæpe transversim rugosa, margine minutissime aculeata. *fig. 8.*

PANICULA triangularis, subcompressa, flores subsecundi.

PEDUNCULI *universales* ad basin paniculæ plerumque *bini*, altero brevior, in medio frequenter *terni*, apice vero *solitarii*; anguli nunc recti, nunc obliqui.

SPICULÆ ovato-acutæ, compressæ, utrinque acutæ trifloræ, quadrifloræ. *fig. 2.*

CALYX: GLUMA bivalvis, valvulis concavis, inæqualibus. *fig. 1.*

COROLLA bivalvis, valvulis villosis, margine membranaceis, albidis, una majore, concava, obtusiuscula; altera minore, angustiore. *fig. 3.*

STAMINA: FILAMENTA tria capillaria; ANTHERÆ flavescentes, bifurcatæ. *fig. 4.*

PISTILLUM. GERMEN ovatum, STYLI duo ramosissimi, pellucidi. *fig. 5.*

SEMEN ovatum, corolla adnascente tectum, ad basin villosulum. *fig. 7.*

ROOT annual and very fibrous.

STALKS numerous, forming a turf, semiprocumbent, but in meadows when growing among other plants, nearly upright, a little crooked, and about half a foot high.

SHEATHS flat, two edged, and smooth.

LEAVES very numerous, short, keel-shaped, smooth, frequently wrinkled transversely, the edge very finely serrated. *fig. 8.*

PANICLE of a triangular shape and flattish, the flowers growing mostly to one side.

PEDUNCLES: the *universal peduncles* generally proceed from the bottom of the panicle in *pairs*, one of which is shorter than the other, from the middle often by *threes*, and at top *singly*; forming angles sometimes straight, sometimes oblique.

SPICULÆ oval and pointed, flattish and sharp on both sides, containing three and four flowers. *fig. 2.*

CALYX: a GLUME of two valves, the valves hollow and unequal. *fig. 1.*

COROLLA of two valves, the valves villous, membranous and whitish at the edges, the one larger, hollow and bluntish, the other smaller and narrower. *fig. 3.*

STAMINA: the FILAMENTS very minute, the ANTHERÆ yellowish and forked. *fig. 4.*

PISTILLUM: the GERMEN oval, two STYLES exceedingly ramified and pellucid. *fig. 5.*

SEED oval, covered by the Corolla which adheres to it, at bottom slightly villous. *fig. 7.*

THE laudable Society established in London for the encouragement of Manufactures, Arts, and Commerce, sensible of the improvements which might be made in Agriculture, from a more general introduction of the most useful English Grasses, have offered Premiums to such as shall give the best account of their cultivation, and the *Poa Annua* above described, is one of those they have selected, from its appearing to them to be one of the most useful.

Mr. Stillingfleet observes that it makes the finest turf, that he has seen in high Suffolk whole fields of it, without any mixture of other Grasses, and that as some of the best salt Butter we have in London comes from that County, he apprehends it to be the best Grass for the Dairy; from observing likewise, that this Grass flourished much more from being trodden on, he concludes that frequent rolling must be very serviceable to it.

There is no Grass better entitled to Ray's epithet of *Vulgarissimum* than this, as it occurs almost every where, in Meadows, Gardens, at the sides of Paths, and on Walls: when it grows in a very dry situation, it frequently doth not exceed three inches, but in rich meadows it often grows more than a foot in height. The panicle is frequently green, but in open fields it acquires a reddish tinge; it flowers all the Summer long, and even in Winter if the weather be mild.

It appears to be the first general covering which Nature has provided for a fruitful soil when it has been disturbed; for which reason, in Walks, Pavements, or Pitching, it may be considered as one of the most troublesome of Weeds; the most expeditious method of destroying it, would probably be by pouring boiling water on it.

All the Authors that have described this Grass call it an annual, it differs however very considerably from the other annual Grasses, they throw up their Spikes or Panicles, produce their flowers and seeds, and then die away; this on the contrary keeps continually throwing out new shoots, and producing new flowers, and seeds, and if the ground be moist, a single plant will remain growing in this manner throughout the year, so that we generally find on the same plant, young shoots and ripe seeds.

"Hic ver assiduum atque alienis mensibus æstas."

Perhaps this is the only vegetable we have that in this Circumstance imitates the Tropical plants. Although its seed may be gathered the whole summer long, yet about the latter end of May, it will be found in the greatest plenty: Experience must determine the best method, in which this Grass should be cultivated, whether by sowing its seed, or dividing and transplanting the Grass itself; as this seed would with more difficulty be procured in large quantities than that of many others, and as a single tuft of this Grass may be divided into a vast number of young plants, probably transplanting it in wet weather would be the most eligible mode of cultivation. These observations are submitted to the consideration of the Farmer and Gentlemen of landed property, who reside in the Country, and who have both leisure and opportunity to try experiments of this kind. Although the Authors province more particularly is to describe and figure these plants in such a manner as to make them as obvious as possible, yet he would be exceedingly happy to communicate to the public, any improvements which may be made in this or any other branch of Agriculture, that he may be favoured with.







Poa retroflava.

POA RETROFLEXA. REFLEXED MEADOW-GRASS.

POA *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 2-valvis, multiflorus. *Spicula* ovata: valvulis margine scariosis acutiusculis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

POA *retroflexa* panicula diffusa, ramis post florescentiam retroflexis, spiculis sublinearibus subquinquefloris.

POA *distans* panicula ramis subdivisis, floribus quinquefloris: flosculis distantibus obtusis. *Lin. Syst. Vegetab.* p. 115. ?

AIRA aquatica var B. *Hudson Fl. Angl. ed. 2.* p. 34.

RADIX perennis, fibrosa.

CULMI plures, spithamæi, pedales, aut sesquipedales, obliqui, foliosi, inferne subinfracti, teretes, læves.

FOLIA glauca, lævia, acuta, radicalia subconvoluta, caulina plana, erecto-patentia; *Ligula* brevis, obtusa, subtruncata, subinde bifida; *Vagina* lævis.

FLORES paniculati, panicula palmaris aut sesquipedalis, diffusa, ramis inæqualibus, ramosis, subflexuosis, tandem ad basin pertumidis et retro porrectis, inferioribus subquinis.

SPICULÆ sublineares, subquinquefloræ, nonnunquam penitus virides, at sæpius albo et purpureo pulchre variegatæ, *fig.* 1, 2, 3.

CALYX: *Gluma* bivalvis, valvulis ovatis, obtusis, concavis, inæqualibus, altero duplo brevior, *fig.* 4. auct.

COROLLA: bivalvis, valvulis subæqualibus, exteriore majore, concava, obtusiuscula, *fig.* 5, interiore plerumque bifida, ad lentem utrinque ciliata, *fig.* 6.

STAMINA: FILAMENTA tria, capillaria; ANTHERÆ parvæ, luteæ, *fig.* 7.

PISTILLUM: GERMEN obovatum, *fig.* 8; STYLI duo, patentes, ad basin usque ramosi, *fig.* 9.

NECTARIUM: *Glumulæ* duæ, ovato-acutæ, ad basin germinis, *fig.* 10.

Fig. 11 exhibit spiculam speciminis ficcati in qua flosculi remotiores et subtruncati.

ROOT perennial, and fibrous.

STALKS several, a span, a foot or a foot and a half in length, oblique, leafy, slightly elbowed below, round and smooth.

LEAVES glaucous, smooth, pointed, radical leaves somewhat rolled up, stalk-leaves flat, betwixt upright and spreading; *Membrane* short, obtuse, somewhat truncated, now and then bifid; *Sheath* smooth.

FLOWERS growing in a panicle, a hand's breadth or half a foot in length, spreading, the branches unequal, ramified, somewhat crooked, finally much swelled at the base, and stretched out backwards, the lowermost about five in number.

SPICULÆ somewhat linear, containing five flowers, more or less, sometimes entirely green, but more often prettily variegated with white and purple, *fig.* 1, 2, 3.

CALYX: a *Glume* of two valves, the valves ovate, obtuse, hollow, unequal, one of them not more than half the length of the other, *fig.* 4. magnified.

COROLLA: composed of two valves, the valves nearly equal, the outer one largest, concave, a little blunt, *fig.* 5, the inner one usually bifid, and, if magnified, edged on each side with hairs, *fig.* 6.

STAMINA: three capillary FILAMENTS; ANTHERÆ small and yellow, *fig.* 7.

PISTILLUM: GERMEN inversely ovate, *fig.* 8; STYLES two, spreading, branched down to the bottom, *fig.* 9.

NECTARY: composed of two small *Glumes*, ovate and pointed, at the base of the germen, *fig.* 10.

Fig. 11 exhibits the spicula of a dried specimen, in which the flowers are further apart, and appear somewhat truncated at top.

It is rather matter of admiration, that this Grass should have escaped the notice of Mr. RAY, since it is common in pastures and by road sides on all our sea-coasts, at least where we have travelled; like the *Plantago maritima* and some other plants, it is not confined to maritime situations; for, to my great astonishment, I found it, July 1786, among the grassy herbage on the right-hand side of the horse-road leading up the hill to Hampstead in tolerable plenty.

Though, at first sight, it bears a near resemblance to the *Poa annua*, and for which I have no doubt but it is often mistaken, a discerning eye will readily perceive a difference at a distance, and a close examination will discover abundant matter to confirm it.

As it usually grows, it is considerably taller than the *Poa annua*, its leaves are narrower in proportion, and much more glaucous, its spiculæ also are much narrower as well as longer, and, of course, contain many more florets; these are for the most part prettily variegated with pale green and purple; but the grand character which distinguishes it from the *Poa annua*, and, as far as we have observed from all the other Poas, is to be drawn from the branches of the panicle; these, as the plant goes out of bloom, are reflected or stretched out backwards, so as sometimes to touch the culmus or main stem. On examining into the cause of this, I found it was effected by little tubercles at the base of the branches on their upper sides only, which increasing in size as the plant advanced in its flowering, forced them backwards.

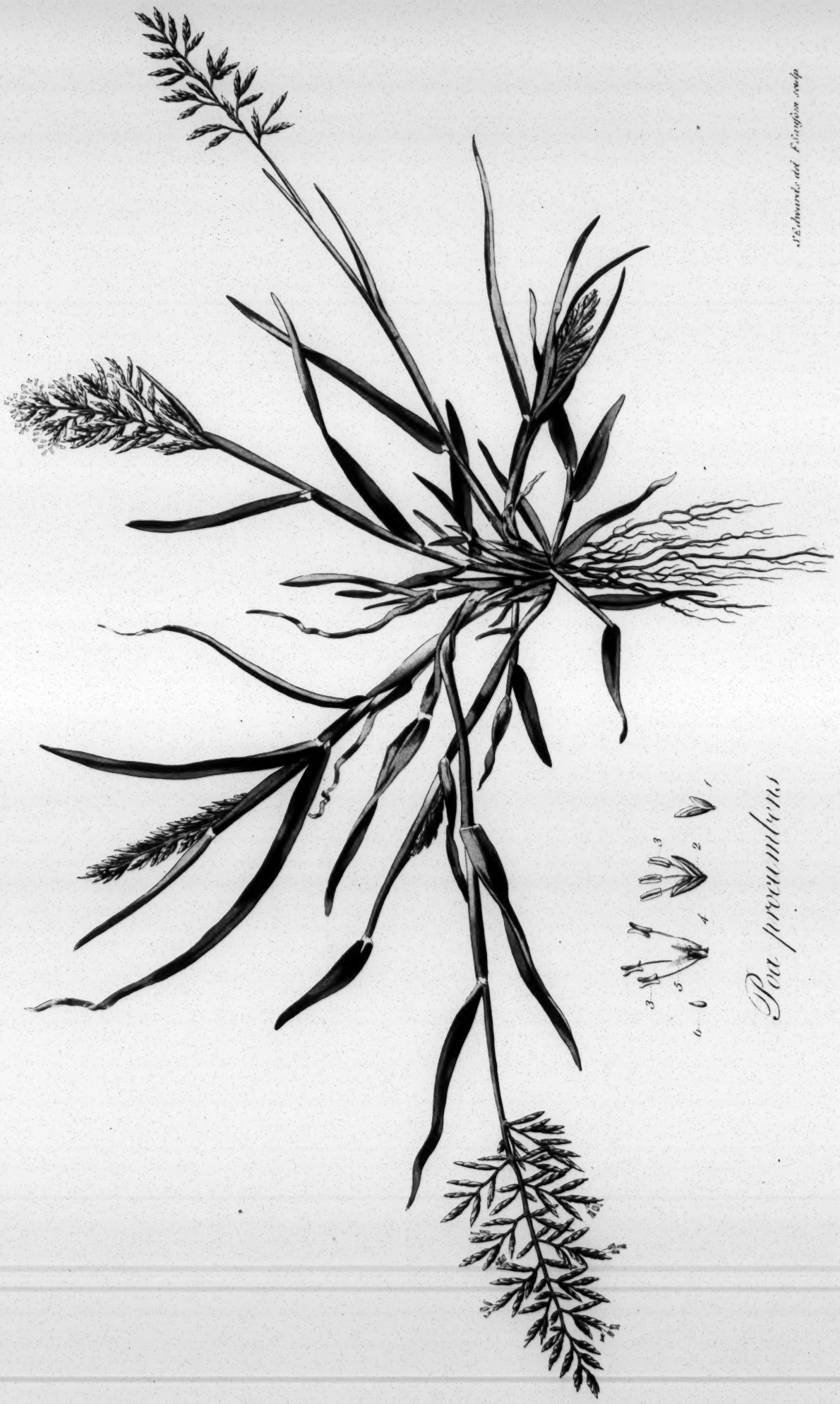
The peculiarity of this character induced us to adopt a name expressive of it, notwithstanding we had strong reasons to suppose our plant the *Poa distans* of LINNÆUS, a term expressing very distantly indeed any character of the plant.

Mr. HUDSON gives a particular description of this Grass, but considers it as a variety only of the *Aira aquatica*: what could induce him to form such an opinion, is difficult to say, we can assure our readers, that six years culture has made no alteration in the appearance of the *Poa retroflexa*.

There does not appear to be sufficient merit in this Grass to recommend it for agricultural purposes.

It flowers from June to September.





Poa procumbens

Richardsonii del. F. virginica var.

POA PROCUMBENS. PROCUMBENT MEADOW-GRASS.

POA. Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis multiflorus. Spiculæ ovatae, valvis margine scariosis acutiusculis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ, FLORE IMPERFECTO CULMIFERÆ.

POA procumbens culmis inflexo-procumbentibus, panicula secunda rigida; spiculis sublinearibus, subquinquefloris; flosculis obtusis basi pilosis.

RADIX perennis, fibrosa.

CULMI plures, palmares, semipedales et ultra, bi-trinodes, plerumque procumbentes, foliosi, læves, superne compressi.

FOLIA glauca, brevissima, lineas duas lata, lineata, ad lentem punctis diaphanis subasperis confertis utrinque adspersa, margine minutissime serrulata; Ligula brevis, amplexicaulis, alba, acutiuscula; Vagina foliorum intus nitida, extus superficies eadem ut in foliis.

FLORES paniculati.

PANICULA subbiuncialis, rigida, subovata, deorsum subinde flexa, subsecunda, ramosa, ramis binatis inæqualibus, exteriore majore, spicula simplici in ramis inferioribus plerumque medio inter ramos posita, in speciminibus minus luxuriantibus spicula locum ramuli obtinet.

PEDUNCULI communes, teretes, nudi, flexuosi, substantia glandulosa ad basin superne notata.

RACHIS teres, lævis, interne bifurca.

SPICULÆ in ramis majoribus sex circiter, in minoribus quatuor, sessiles, subquinquefloræ, sublineares, compresso-teretiuseculæ, æquidistantes.

FLOSCULI obtusi, ad basin pilosi.

CALYX: Gluma bivalvis, valvulis inæqualibus, viridibus, albo marginatis, obtusiusculis, fig. 1.

COROLLA: Gluma bivalvis, valvis subæqualibus, exteriore majore quinquenervi, interiore angustiore binervi, nervis ciliatis, fig. 2.

STAMINA: FILAMENTA tria capillaria; ANTHERÆ oblongæ, flavæ, fig. 3.

PISTILLUM: GERME obovatum, pallide virens; STYLI duo, patentes ad basin usque ramosi, fig. 5.

NECTARIUM: Glumulae duæ, diaphanæ, basi tumidæ carnosæ, germine paulo longiores, fig. 4.

SEMEN oblongum, læve, glumis inclusum, fig. 6.

ROOT perennial, and fibrous.

STEMS many, from four to six inches or more in length, having two or three joints, for the most part procumbent, leafy, smooth, flattened towards the panicle.

LEAVES glaucous, short, two lines broad, scored, when viewed with a magnifier appearing to be thickly covered with roughish transparent dots, the edge very minutely sawed; Membrane short, embracing the stalk, white, somewhat pointed; Sheath of the leaves glossy on the inside, the surface on the outside the same as that of the leaves.

FLOWERS in a panicle.

PANICLE about two inches long, rigid, somewhat ovate, and now and then bent a little backwards, turning chiefly to one side, branched, the branches growing in pairs, unequal, the outer one largest, in the lower branches a single spicula is most commonly placed in the middle betwixt them, in impoverished specimens a spicula often holds the place of a branch.

PEDUNCLES: the common peduncles round, naked, crooked, marked at the base on the upper side with a glandular kind of substance.

RACHIS round, smooth, with two grooves on the inside.

SPICULÆ in the larger branches about six in number, in the smaller ones four, sessile, containing about five flowers, somewhat linear, roundish, slightly flattened, placed at equal distances from each other.

FLORETS obtuse, hairy at the base.

CALYX: a Glume of two valves, the valves unequal, green, edged with white, and somewhat blunt, fig. 1.

COROLLA: a Glume of two valves, the valves somewhat equal, the outer one largest and five-ribbed, the inner one narrowest and two-ribbed, the ribs edged with hairs, fig. 2.

STAMINA: three capillary FILAMENTS; ANTHERÆ oblong, and yellow, fig. 3.

PISTILLUM: GERME obovate, of a pale green colour; STYLES two, spreading and ramified quite to the base, fig. 5.

NECTARY: two small transparent Glumes, tumid and fleshy at the base, a little longer than the germen, fig. 4.

SEED oblong, smooth, enclosed in the glumes, fig. 6.

In the Autumn of 1793, having occasion to be at Bristol, I spent great part of a day in examining the plants of the famous St. Vincents Rock, adjoining Clifton-Wells; and at the foot of the rock, on the edge of the river Severn, I observed a tuft of grass, with a few panicles of ripe seed on it, assuming a different appearance to any grass I had been accustomed to see: I sought for more of it about the same spot, but without success; flattering myself that it might turn out to be a new species, I took up the only root there was, and gathered the seeds, planting the one, and sowing the other, in my garden at Brompton; the next season it flowered with me, and gave me an opportunity of discovering that it was a species of Poa, perfectly distinct from all our others.

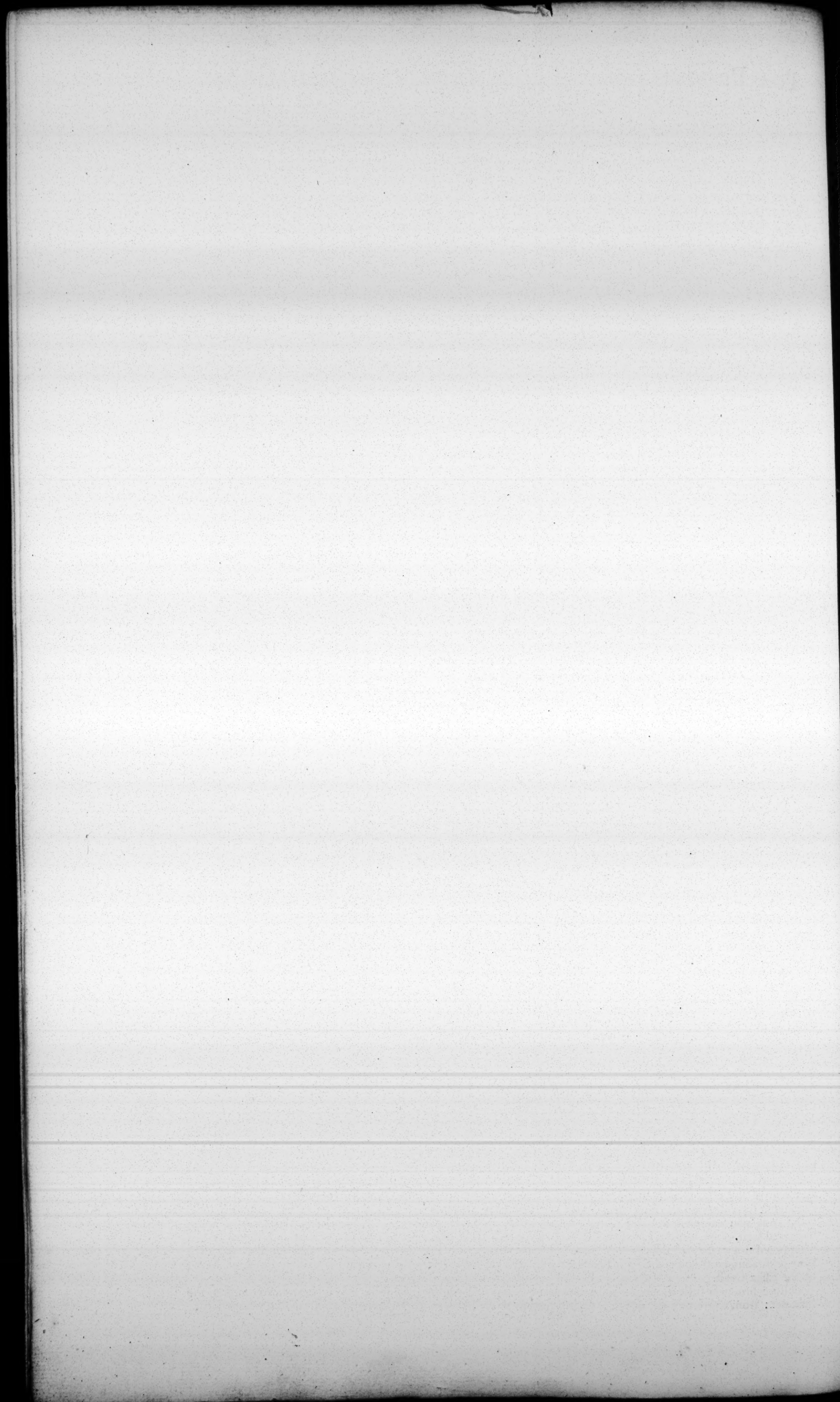
In its general habit it comes near to Poa annua, it bears an affinity also to Poa rigida; but from both those, as well as from all our other Poa's, it is distinguished by many curious and interesting particulars.

One of the most striking characters of this grass is to have its stalks for the most part procumbent; but this procumbence, if we may be allowed the expression, does not appear to originate in the usual way, from the weakness of the stalk, but from its being bent downward at a joint near its base; as every stem is not thus acted on, some of them are frequently found nearly upright: the foliage of this plant is of a glaucous hue, and, if examined with a magnifier, is found to be covered with numerous rough particles of a silvery hue; the panicle has a greater degree of rigidity than that of Poa annua, the spiculæ are much longer, less flat, and more regularly distant from each other, and each floret is ciliated at its base; such are the most obvious differences; many others may be discovered from an attention to the description.

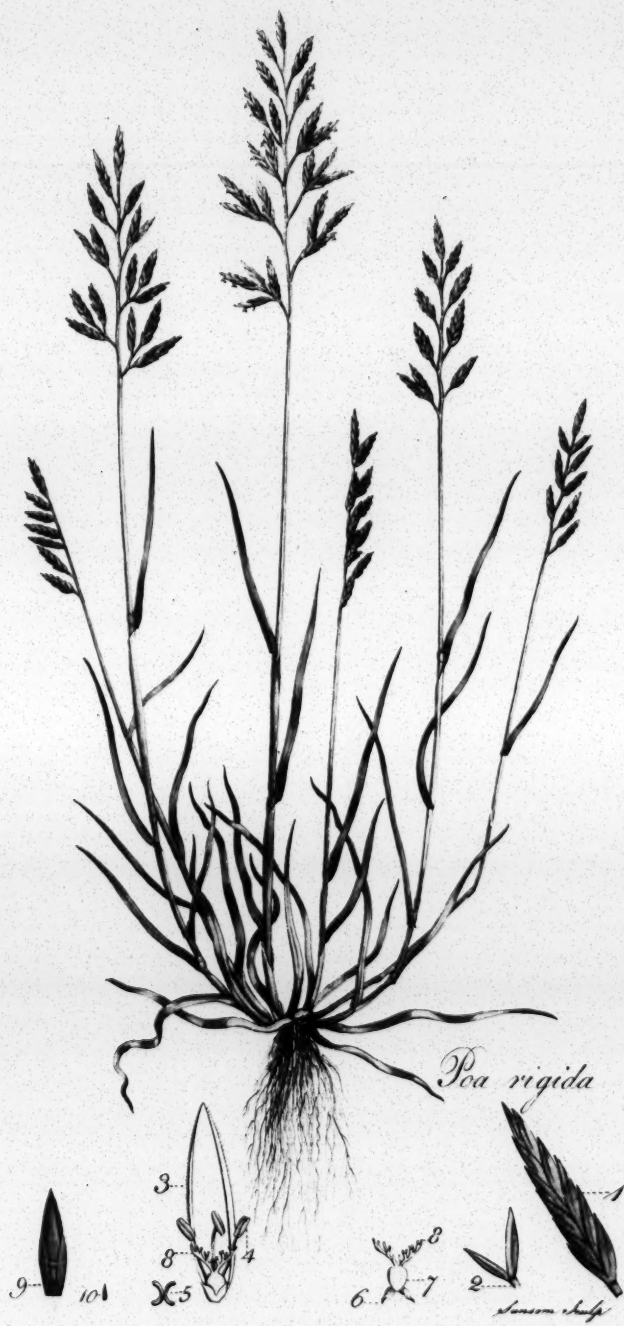
Not satisfied with having found a single specimen of this plant, we delayed publishing this account, hoping that it might be found more abundantly elsewhere; in the beginning of August an opportunity of making this discovery fortunately presented itself.

Sir THOMAS FRANKLAND, an early and warm encourager of the Flora Londinensis, which in many points has been improved by his friendly and judicious observations, sent me, from Clifton (where he then was on a visit) some seeds and specimens of plants gathered near that spot; I immediately wrote to him, and enclosing a specimen of my Poa, requested him to search for it; on the 7th of the same month I received a letter from him, containing specimens of the same grass, with the following desirable information: "I had fortunately noticed the grass you enclosed in your letter, which grows in some plenty in the inundated parts of the waste ground west of the wet dock, below Clifton; it seemed most like Poa rigida, its habit was new to me, and I supposed it a variety of that grass." In a letter afterwards, Sir THOMAS informs me, that he had found the same grass abundantly on the Pier at Scarborough; and we have lately been informed, that it has been found on the Essex Coast.

Culture produces little alteration in its appearance; it grows readily from seed, and flowers during most of the Summer: from the same root, which is clearly perennial, we have, as in Poa annua, young shoots and ripe seeds.







POA RIGIDA. HARD MEADOW-GRASS.

POA *Linnaei* Gen. Pl. TRIANDRIA DIGYNIA.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

POA *rigida* panicula lanceolata subramosa secunda: ramulis alternis secundis. *Linn. Syst. Vegetab.* p. 98.

GRAMEN panicula multiplici. *Baubin. Pin.* p. 3.

GRAMEN exile duriusculum in muris et aridis proveniens. *Raii Syn.* 410, Small Hard Grass.

GRAMEN loliaceum murorum duriusculum spica erecta rigida. *Hist. Oxon. III.* 182. t. 2. fig. 9.

GRAMEN minus duriusculum. *Gerard.*

GRAMEN arvense, filicinâ, duriore panicula, gracilius. *Barrel. Ic.* 49.

Scheuchz. Agroft. ed Haller. p. 271. t. 6. fig. 2. 3. spiculæ tantum.

Hudson Fl. Angl. p. 35. ed. 2. p. 42.

RADIX annua, paucis fibrillis instructa.

CULMI plures, palmares, erecti, ad basin infracti, plerumque simplices, læves, binodes.

FOLIA lanceolata, lævia, longitudine vaginæ, suberecta; *Membrana* brevis, obtusa, apice lacera; *Vagina* lævis, lineata.

PANICULA lanceolata, sesquiuncialis, paululum recurvata, rigida, subsecunda.

SPICULÆ lineari-lanceolatæ, suboctofloræ, acutæ, subcompressæ, fig. 1.

CALYX: GLUMA bivalvis, valvulæ longitudine et magnitudine inæquales, ad lentem scabriusculæ, fig. 2.

COROLLA: GLUMA bivalvis, valvulæ subæquales, ovato-acutæ, marginibus membranaceis, fig. 3.

STAMINA: FILAMENTA tria, capillaria. longitudine Corollæ: ANTHERÆ flavæ, minimæ, breves, utrinque furcatæ, fig. 4, 5.

NECTARIA: GLUMULÆ duæ, ovato-acutæ, longitudine Germinis, ope microscopii visibiles, fig. 6.

PISTILLUM: GERMEN turbinatum: STYLI duo ad basin usque ramosi, fig. 7, 8.

SEMINA ovato-acuta, hinc convexa, inde concava.

ROOT annual, and furnished with few fibres.

STALKS several, about four inches high, upright, crooked at bottom, generally simple, smooth, with two knots or joints.

LEAVES lanceolate, smooth, the length of the sheath, and nearly upright; *Membrane* at the base of the leaf short, obtuse, and jagged at top; *Sheath* smooth, and very finely grooved.

PANICLE lanceolate, about an inch and a half long, bent a little back, rigid, the spiculæ in some degree growing one way.

SPICULÆ of a shape betwixt linear and lanceolate, containing for the most part eight flowers, pointed and flattish fig. 1.

CALYX: a GLUME of two valves, the valves unequal in length and size, appearing roughish when viewed with a magnifier, fig. 2.

COROLLA: a GLUME of two valves, the valves nearly equal, of an oval pointed shape, the edges membranous, fig. 3.

STAMINA: three FILAMENTS, fine, the length of the Corollæ; ANTHERÆ yellow, very minute, short, and forked at each end, fig. 4, 5.

NECTARIES: two small GLUMES of an oval pointed shape, the length of the Germen, visible by the help of a microscope, fig. 6.

PISTILLUM: GERMEN larger at top than at bottom: STYLES two, branched down to the bottom, fig. 7, 8.

SEEDS of an oval pointed shape, convex on one side, and hollow on the other.

Neither HALLER nor SCOPOLI make any mention of this grass. According to SCHEUCHZER, it is common in *Italy* and *France*, in dry fields, and sometimes on walls: with us it is found more frequently on the latter; and though not so common as some of the grasses, yet it is to be found on most of the walls about London, in May and June.

In very dry and barren situations, the stalks sometimes are found simple, the panicle also not branched, and the spiculæ, instead of containing about eight flowers, which is the usual number, have no more than three or four: in this state SCHEUCHZER makes another species of it: this alteration, from an excess or scantiness of nourishment, is what all plants are subject to; and no circumstance seems to have been less regarded by Botanists—To form species or varieties from such a cause, is to multiply plants without end. A complete knowledge of a plant, is only to be attained by observing it at the different periods of its growth, in all the various situations in which it occurs—Information obtained from any other source is not to be depended on.







Festuca pratensis.

FESTUCA PRATENSIS. MEADOW FESCUE-GRASS.

FESTUCA. Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis. Spicula oblonga, teretiuscula, glumis acuminatis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

FESTUCA *pratensis* panicula secunda obliqua, spiculis muticis sublinearibus, foliis planis.

FESTUCA *elatior* Linn. Fl. Suec. n. 94.

FESTUCA *pratensis* panicula erecta, spiculis linearibus muticis, foliis planis. Hudson Fl. Angl. ed. 1. p. 37.

GRAMEN paniculatum elatius, spicis longis, muticis, squamosis. Raii Syn. p. 411. 16. Scheuch. Agrost. p. 202. 2.

PHŒNIX multiplici spicata panicula. Branched Darnel-Grasse. Park. Theat. p. 1145.

GRAMEN loliaceum panicula multiplici et spicata. Tourn. Inst. p. 516. Scheuch. Agrost. p. 200. 1.

In the environs of London the *Festuca pratensis* is a very common grass, growing spontaneously in situations widely varied; we have observed it in the sand-pits at Charlton, and the other grounds near Battersea; also in various pastures, and by the sides of paths; but it abounds most in fertile meadows which are moderately moist: in many parts of Battersea meadows it may be found most plentifully.

It flowers about the middle of June; seed from a crop of it sown on ground which I occupy at Brompton, was ripe and cut by the end of the same month.

From long cultivation we have observed this grass continue perfectly distinct, and as we have found it to be a very hardy perennial, producing a great crop of desirable herbage, we have recommended it* as one of the best of our British grasses.

Except in size, arising from luxuriance of soil, it is not subject to much variation.

Several authors have confounded this species with the *elatior*, to which it certainly bears great affinity: MORISON and RAY, two of our early writers have the credit of considering them as distinct. RAY, in his *Hist. Pl.* has happily displayed the character of the *pratensis*, and MORISON has well described and figured the *elatior*; it appears clearly also from the following words, which we find at the close of the latter's description of the *elatior*, that he regarded the *pratensis* as a distinct species, "alterum in pratis dimidio minus ejusdem formæ frequens invenitur, et tanquam distinctæ speciei habendum."—SCHEUCHZER gives a minute description of the *pratensis*, making two varieties of it without any very apparent reason: it is remarkable that LINNÆUS does not refer to this author either for his *elatior* or his variety of it. VAILLANT, as is evident from his references to RAY's two plants, considers the *elatior* and *pratensis* as the same, though LINNÆUS in his *Fl. Suec.* and *Spec. Plant.* confounds two plants in his references, and quotes indeed a figure in BARRELIER, which is neither *elatior* nor *pratensis*, but the *Festuca pinnata* Hudf. ed. 2. yet we suspect† from what he says of its place of growth, &c. for his specific description is a very inadequate one, that our *pratensis* is his *elatior*; his var. β of the *elatior* in the *Sp. Pl.* ed. 3. is clearly our *elatior*, but in the *Syst. Vegetab.* ed. 14. his last work, the *elatior* from a new reference to SCHEUCHZER is evidently made our *elatior*, and the variety is wholly lost sight of. Mr. HUDSON, in the first edition of his *Fl. Angl.* gave to this grass the name of *pratensis*, which, as the plant is chiefly found in meadows, is an extremely proper one, and as such we most readily adopt it: in the 2d edition of the same work, by some unaccountable mistake, for such it must be, he has been induced contrary to the opinion of all Botanists to consider it, together with the *loliacea* as varieties of the *Festuca fluitans*, asserting that they change to it when cultivated‡. We must observe that this is not only contrary to our experience in regard to culture, but that we have frequently, and this season particularly, observed the *pratensis* growing in several wet spots in Battersea meadows, close to the *fluitans*, and that both the grasses assumed their usual appearance; not to mention the different habits of these plants, the different form of their spiculæ, &c. the *fluitans* has a nectary differing widely from that of the *pratensis*, *elatior*, or *loliacea*, and which alone would remove any doubts, could such be really entertained on this subject.

The *pratensis* differs from the *elatior* in its usual place of growth; we have indeed found them growing close together; but betwixt Battersea and Vauxhall, where these plants grow abundantly, the *elatior* usually grows separately from the *pratensis*; and as we have before observed in the other grounds, where it has the advantage of moisture and some shade; the *pratensis* grows more dispersed in the open meadows, not forming such large tufts as the *elatior*, the *elatior* taking plants of equal strength and age, and which is to be understood through the whole of the subsequent comparison, is usually, nearly twice as high, and has foliage twice as broad, as that of the *pratensis*; the panicle in the *elatior* is not only much longer, but contains a far greater number of flowers, in the proportion of 64 to 128 taken from medium specimens; the panicle in the *pratensis* is usually once branched, in the other twice; in the *elatior* it droops greatly at first; in the *pratensis* but slightly; in the latter it leans to one side when in flower, and the flowers grow one way; in the *elatior* they grow more loosely, spreading more on all sides, but the spiculæ afford one of the most obvious distinctions; in the *pratensis* these are somewhat flat, linear, and obtuse; in the *elatior* more round, ovate, and pointed.

These two plants differ also about a fortnight or three weeks in their time of flowering.

Fig. 1. Spicula.

2. Glumæ Calycinae.

3, 4. Glumæ Corollacæ.

5. Nectaria.

6. Stamina.

7. Pistillum.

8. Semen glumis inclusum.

9. Semen denudatum.

Fig. 1. One of the Spiculæ.

2. Glumes of the Calyx.

3, 4. ——— Corolla.

5. The Nectaries.

6. The Stamina.

7. The Pistillum.

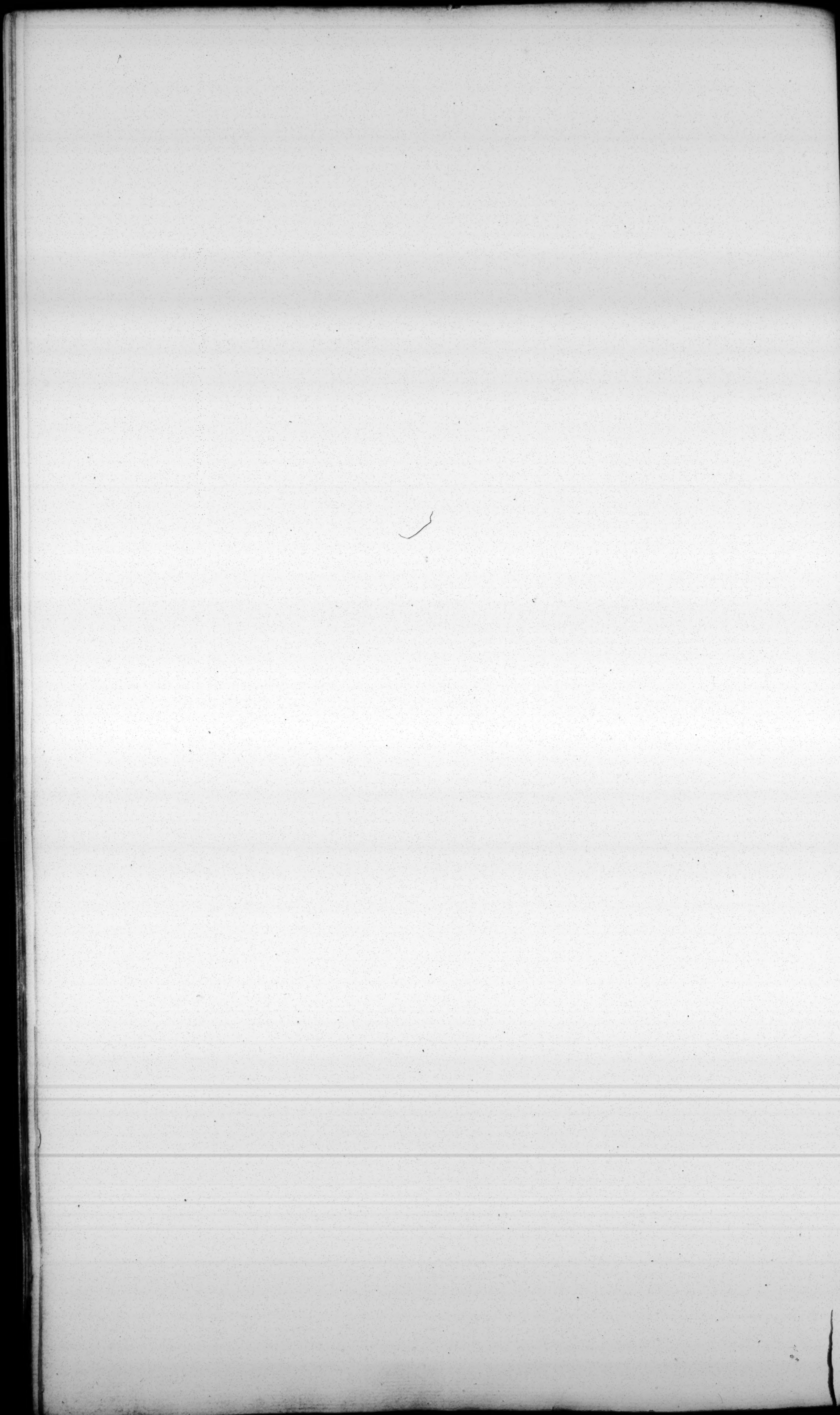
8. The Seed enclosed within the Glumes.

9. The Seed taken out.

* Vid. Practical observations on the British grasses best adapted for laying down or improving of meadows and pastures.

† Since the above was written we have had the satisfaction to learn from Mr. AFZELIUS, a Swedish Botanist of the first eminence now in London, who had the honour of being a pupil to LINNÆUS, and who meditates a new edition of the *Fl. Suec.* of that illustrious author, that the *pratensis* here figured is indisputably the *elatior* of the *Fl. Suec.* a name LINNÆUS had been induced to give it from its being the tallest *festuca*, he had then seen growing, for it appears that he was at that time a stranger to our *Festuca elatior*.

‡ α (*Festuca fluitans*) sata in hortis mutatur in β (*loliacea*) et γ (*pratensis*) primo anno in β secundo in γ. Hudf. *Fl. Angl.* ed. 2. p. 47.







Festuca elatior

FESTUCA ELATIOR. TALL FESCUE GRASS.

FESTUCA Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2 valvis. Spicula oblonga, teretiuscula, glumis acuminatis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

FESTUCA *elatior* panicula decomposita, primo nutante, flore suberecta, spiculis ovato-lanceolatis acutis muticis, foliis planis.

FESTUCA *elatior* panicula secunda erecta, spiculis subaristatis, exterioribus teretibus. Linn. Syst. Vegetab. ed. 14. Murr. p. 118. Sp. Pl. p. 111. var. β. Schreb. Gram. t. 2. p. 34.

POA foliis latis alperis, locustis teretibus muticis, glumarum oris membranaceis. Hall. Hist. n. 1451.

FESTUCA *elatior* panicula secunda erecta ramosa, ramis binatis, spiculis ovatis subaristatis, foliis planis. Hudf. Fl. Angl. ed. 2. p. 47.

GRAMEN arundinaceum aquaticum panicula avenacea. Raii Syn. ed. 3. p. 411. 14.

GRAMEN paniculatum nemorosum latiore folio glabrum, panicula nutante, non aristata. Raii Syn. p. 411. 15.

GRAMEN arundinaceum locusti viridi spadiceis loliaceis, brevius aristatis. Scheuch. Agrofl. p. 266.

GRAMEN loliaceum spica divisa, pratense majus. Moris. Hist. Ox. 111. 184. t. 2. f. 15.

RADIX perennis, fibris numerosis, fuscis, ramossimis, subvillosis.

CULMI bi-tripedaes et ultra in pingui solo, erecti, teretes, glabri, nodosi, ad basin plerumque purpurei.

FOLIA inferiora pedalia, aut sesquipedalia, tres quaterve lineas, lata, sensim acuminata, superne et ad margines scabriuscula, striata, inferne carinata, nudula, amplexicaulia, basi ipsa e flavo virescente; membrana brevissima truncata, caulina breviora; Vaginae striatae, laeves.

PANICULA spithamea, aut pedalis, primo plerumque nutans, postea suberecta; Rami plerumque binati, inaequales, in ramulos plerumque subdivisi, ad basin tumidi; Rachis angulosus, flexuosus, scabriusculus, nitidus.

SPICULÆ ovato-lanceolatae, teretiusculae, viridi et purpureo variegatae, suboctoflorae, nunc muticae, fig. 2. nunc brevius aristatae, fig. 1.

CALYX: Gluma bivalvis, valvis inaequalibus, acuminatis, fig. 3.

COROLLA bivalvis, valvis subaequalibus acutis, exteriore majore, et paulo longiore, fig. 4. interiore saepe bifida, fig. 5.

STAMINA: FILAMENTA tria, capillaria; ANTHERÆ lineares, flavae, auct. fig. 6.

PISTILLUM: GERMEN obovatum, laeve; STYLII duo, patentes, plumosi, fig. 7, 8.

NECTARIUM: Glumulae duae, ad basin germinis, ovato-acuminatae, denticulo laterali acuminato plerumque instructae, fig. 9.

ROOT perennial, furnished with numerous brown fibres, much branched, and slightly villous.

STALKS from two to three feet high, or more in a rich soil, upright, round, smooth, jointed, usually purple at the base.

LEAVES towards the root, a foot or a foot and a half long, and three or four lines broad, gradually tapering to a point, above and on the edges roughish, striated, on the under side keeled, a little glossy, embracing the stalk, the very base of a yellowish green colour; membrane very short and truncated, leaves of the stalk shorter; Sheaths striated and smooth.

PANICLE from a span to a foot in length, at first for the most part drooping, becoming afterwards nearly upright; Branches generally growing in pairs, unequal, for the most part subdivided into smaller ones, tumid at the base; Rachis angular, crooked, roughish, glossy.

SPICULÆ ovato-lanceolate, roundish, variegated with green and purple, containing about eight flowers, sometimes without, fig. 2. sometimes having short awns, fig. 1.

CALYX: a Glume of two valves, which are unequal and taper to a point, fig. 3.

COROLLA composed of two valves, the valves nearly equal, pointed, the outermost larger and a little longer than the other, fig. 4. the inner one often bifid, fig. 5.

STAMINA: three capillary FILAMENTS; ANTHERÆ linear and yellow, magnified, fig. 6.

PISTILLUM: GERMEN inversely ovate, smooth; STYLES two, spreading, feathery, fig. 7, 8.

NECTARY two small Glumes at the base of the germen, ovate with a long point, usually furnished on the side with a long slender tooth, fig. 9.

The three Grasses figured in the present number, differ so materially in their usual appearance when growing wild, that from the first we have been induced to consider them as distinct species; that we might however profit by the light which cultivation in numerous instances throws on species and varieties, we brought them into our garden, and after cultivating them many years in different soils and situations, find ourselves justified in the idea originally entertained.

The first of these, the *Festuca elatior*, is the least common of the three, and with us the most local, affecting and found chiefly in wet situations, as on the edges of the rivulets proceeding from the Thames, in the other grounds adjoining it, and more rarely in moist meadows and woods: we have observed it this year 1791, in great plenty in an other-ground adjoining the Thames, nearly opposite the physic-garden, Chelsea; Ray mentions it as having been found by Mr. DOODY, between London and Chelsea: it grows in large tufts, and is rendered conspicuous by the breadth of its leaves, the height of its stems, and the drooping of its panicle, at least before it flowers.

The student must be careful not to mistake it for the *Bromus hirsutus* and *giganteus* already figured in this work; and which have some affinity to it at least in point of size.

In open meadows, being in every respect smaller, it is not so distinguishable.

It flowers about the latter end of June and beginning of July.

We find it to be a hardy, perennial, and very productive grass, and that it will grow on moderately dry soils better than might be expected; we apprehend however that it is too harsh and coarse, either for hay or pasture: we recommend it nevertheless to the notice of the Agriculturist; it probably may prove a good grass for soils which cannot be drained of their too great moisture, or which are apt to be overflowed.

In very luxuriant spots the leaves will sometimes be found half an inch wide, as VAILLANT describes it; in general, size excepted, we discover very little variation in the habit or characters of this grass: in regard to *Arista*, indeed, it varies as most other grasses are observed to do.

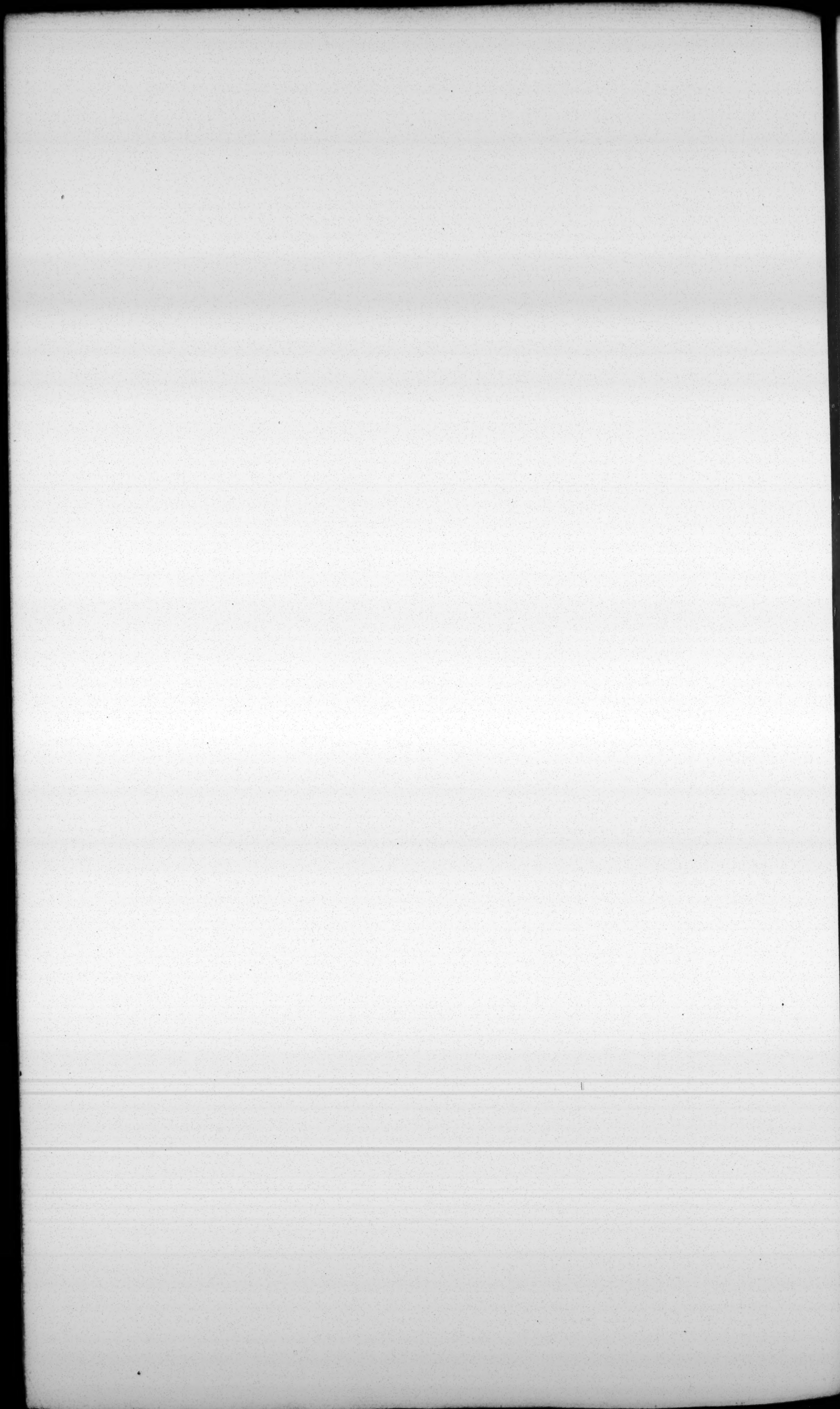
We have found it for the most part beardless, some authors describe it with, others without an *Arista*, *vid. Synon.* Captain DORSET, who has bestowed great attention on the British Grasses, sent me a specimen this year, gathered near Woolwich, the flowers of which were all shortly bearded.

Unfortunately for the science,

On the awn there's no reliance.

We have frequently noticed it in those grasses, which, according to their character, should not have it, and wanting where it ought to have been; this summer in particular, I observed a plant of the *Avena elatior* without awns, the singularity of which prompted me to remove its root to my garden.

Our figure represents the *Festuca elatior* just coming into bloom.







Festuca

fluitans.

FESTUCA FLUITANS. FLOTE FESCUE GRASS.

FESTUCA *Linnaei Gen. Pl.* TRIANDRIA DIGYNIA:

Raii Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

FESTUCA panicula ramosa erecta, spiculis subseffilibus, teretibus muticis. *Linnaei Syst. Vegetab. p.* 102.
Fl. Suecic. p. 32.

POA locustis teretibus multifloris, glumis floralibus exterioribus truncatis, interioribus bifidis. *Haller. hist. p.* 219. *n.* 1453. *v.* 2.

POA fluitans. *Scopoli Fl. Carniol. p.* 73.

GRAMEN aquaticum fluitans, multiplici spica. *Bauhin Pin.* 2.

GRAMEN aquaticum cum longissima panicula. *I. Bauhin. II.* 490. *Raii Syn. p.* 412. Flote-Grass.

GRAMEN fluviatile. *Gerard emac.* 14. *Parkinson.* 1275. *Hudson. Fl. Angl. p.* 38. *Oeder. Fl. Dan. t.* 237.
Schreber. Gram. tab. 3. *Stillingfleet. mis. tab.* 10.

RADIX perennis, in limum profunde penetrans.
CULMUS pro ratione loci pedalis ad tripedalem, basi repens furculosque promens, dein suberectus, vaginis foliorum ad paniculam usque amictus.

VAGINÆ foliorum compressæ, subancipites, striatæ.

FOLIA latiuscula, lævia; furculorum erecta, carinata, breviuscula, caulina longiora, planiuscula, flaccida, aquis tempore hyberno prostrata.

PANICULA longa, inclinata, nonnunquam subspicata sæpius vero ramosa, ramis nunc cauli adpressis nunc distantibus, ut pinxit Cl: Schreberus.

SPICULÆ tenues, teretes, unciales aut sesquicunciales 9 ad 12 floræ, rachi adpressæ.

CALYX: GLUMA bivalvis, valvulis inæqualibus, membranaceis. *fig.* 2.

COROLLA bivalvis, valvulæ longitudine æquales, calyce majores, inferiore majore, concava, lineata, nervis apice sæpe coloratis, apice membranacea, obtusiuscula, sæpius erosa; superiori lanceolata, compressa, bicuspidata. *fig.* 3. 4.

STAMINA: FILAMENTA tria capillaria, ANTHERÆ flavæ aut purpurascens, oblongæ, *fig.* 5.

PISTILLUM: GERMEN ovatum, STYLI duo subulati, reflexi, STIGMATA ramosissima. *fig.* 7. 6. 8.

NECTARIUM Glandula squamiformis, cordata, horizontalis, ad basin germinis. *fig.* 9.

SEMEN oblongum, nitidum olivaceum, bicorniculatum, nudum. *fig.* 10. 11.

FIG 12 Spicula morbo *Ergot* affecta.

ROOT perennial, striking deep into the mud.

STALK according to its place of growth from one to three feet in length, creeping at bottom and sending forth young shoots, afterwards nearly upright; covered with the sheaths of the leaves as far as the panicle.

SHEATHS of the leaves, flattened, two edged, and striated.

LEAVES rather broad and smooth, those of the young shoots upright, keel-shaped, and shortish; those of the stalk longer, flattish, weak, and hanging down, in the winter season lying flat on the water.

PANICLE long, generally inclined or bending down a little, sometimes forming a kind of spike, but most commonly branched; the branches sometimes pressed to the stalk, sometimes diverging from it in the manner represented by Schreber.

SPICULÆ slender, round, an inch or an inch and a half long, producing from 9 to 12 flowers, pressed to the stalk.

CALYX: a GLUME of two valves, which are unequal and membranous. *fig.* 2.

COROLLA of two valves, which are of an equal length and bigger than the Calyx, the lower valve largest, concave and nervous, the nerves towards the top frequently coloured, at top membranous, rather blunt with uneven points, the upper valve more pointed, flat and bifid. *fig.* 3. 4.

STAMINA: three FILAMENTS very slender, ANTHERÆ oblong and yellow or purplish. *fig.* 5.

PISTILLUM: GERMEN oval, STYLES two, tapering and bending back, STIGMATA very much branched. *fig.* 7. 6. 8.

NECTARY a small heart-shaped squamiform gland, placed horizontally at the bottom of the Germen. *fig.* 9.

SEED oblong, shining, of an olive colour, with two little horns, and naked. *fig.* 10. 11.

FIG 12 a Spicula affected with the disease called *Ergot*.

IN speaking of the *Bromus mollis*, we had occasion to remark the very great variety of appearance to which the Grasses were subject from soil and situation, and this observation is equally applicable to the *Festuca fluitans*.

This Grass appears to thrive best in still waters, or gently running streams, where its numerous fibres penetrate easily into the mud; in such situations it becomes very luxuriant, the leaves are large, tender and sweet, and the Panicle becomes very much branched; but in Meadows where it is deprived of its natural quantity of water, it becomes in every respect less, and the Panicle is frequently changed to a simple spike; when it has nearly done flowering, the branches of the Panicle generally project from the main stalk so as to form an acute angle. In every situation whether the Panicle be large, or small, the Spiculæ are always pressed close to the stalk or branches of the Panicle, and this circumstance joined to the length, and roundness of the Spiculæ, sufficiently characterize this species; if it should not however, its parts of fructification afford at once a most pleasing and satisfactory distinction, *vid.* *fig.* 6. 9. 10.

We have often had the singular pleasure of observing this Grass soon after being gathered, expand its Glumes and expose its delicate yellow Stamina, and still more delicate Pistilla, and in this expanded state each Spicula puts on a very different face, and seems to invite the Student to its investigation, and would he wish to become acquainted with the structure of this useful tribe of plants, he cannot select one more proper for his purpose, as it may be found in almost every watery ditch, flowering from the beginning to the end of Summer, and has all the parts of fructification which are peculiar to the Grasses, large enough to be distinctly discerned even by the naked Eye, and so exposed as to be visible without the trouble of dissection.

Modern Botanists seem much divided whether they should consider this as a *Poa* or *Festuca*, as it does not appear to us that we should in the least advance our favourite Science by altering its generic name, we have continued that of LINNÆUS, although we are by no means satisfied with his generic characters of the Grasses in general, and are persuaded that future observations and a more accurate attention to the minute parts of their fructification, will place those Genera in a much clearer point of view than has yet been done by any author.

Professor OEDER in his *FLORA DANICA*, and the celebrated SCHREBER in his *AGROSTOGRAPHIA*, have both given a figure of this grass. As we have not seen it growing either in Denmark or Germany we cannot say that their figures do not express its particular mode of growth in those countries, but they do not convey to us its habit or manner of growing here; in both their figures the Panicle is represented quite upright, whereas with us it is always more or less inclined; this however is a matter of no great moment, a deviation from nature in the representation of the minute parts of the fructification is a matter of much greater consequence, and we are sorry to find that Mr. SCHREBER whose knowledge and accuracy can seldom be called in question, has not been sufficiently attentive to all the parts which characterize this species. He has represented the Styles as branched or feathered quite down to the Germen, whereas they are evidently *naked at bottom and much branched at top only*; the singular Squamula or Scale at the base of the Germen he has properly noticed, but the *two little Horns* at the top of the seed, which are the remains of the Styles, and which in a peculiar manner distinguish this important seed, he does not remark. In the *Flora Danica* the Styles are likewise feathered down to the Germen and the Squamula at the base of the Germen wholly omitted.

This Grass is found to be of considerable importance in the œconomy of Nature.

The *Phalœna Festuœ* or *Gold Spot Moth*, to which LINNÆUS with great propriety adds the epithet of *pulcherrima*, (*vid. Fauna Suecica. p. 311. Albin. pl. 84. lit. E. F. G. H.*) is said by him to feed on this particular Species; with us however it is always found on a different grass, viz. the *Poa aquatica* or *large water Poa*; its history, with the particular manner of finding it we shall give under that grass.

From the observations of late writers, it appears that several sorts of Cattle are remarkably fond of this grass, particularly Kine and Hogs, and that in the spring time they are frequently enticed into bogs by endeavouring to get at its sweet young shoots, which appear earlier than those of most other Grasses.

“Professor KALM in a journey through part of *Sweden*, observed the Swine to go a great way into the water after this grass, the leaves of which, they eat with great eagerness; on this he was tempted to try if they would eat the same grass dried; he accordingly had small bundles of it gathered, dried, and cast before them; the consequence was they ate it seemingly with as much appetite as horses do hay, hence he concludes that by cultivating this grass, *wet and swampy places* might be rendered useful, and a great deal of corn, &c. saved”.

He who introduced the method of feeding hogs in summer time on Clover, deserved very well of his country; and if the hay of this grass would keep them in heart during the winter, it might prove a very valuable discovery.

Mr. Kent in his *hints to Gentlemen of landed property*, lately published, considers this as a most valuable grass, and assures us (*p. 34*) it is to be improved above all others, and at a less expence, merely by flooding; (*p. 54*.) he informs us that flooding destroys *all weeds*, and enriches the land to a very high degree; (*p. 56*.) he says as rolling and pressure bring the *annual meadow-grass*, so flooding immediately begets the *flote fescue*. These assertions of Mr. Kent bespeak neither the Philosopher nor the accurately practical Farmer, they contain an exaggerated account of improving pasture land by a particular process, but show a great want of that minute attention which so important a subject required.

From a long residence in Hampshire, we well know that the meadows in that county are considerably improved by flooding them, that is stopping the water when there happens to be an unusual quantity from violent or long continued rains, and by means of trenches or gries, conveying the surplus water so as to overflow them entirely if possible; but we deny, that by this process *all weeds* are destroyed, the use of *manure* superseded, or that *flote fescue* grass is immediately begotten. Although it is a constant practice with the farmers to flood their meadows in the winter, it is no less a constant practice with such as wish to have good crops of grass to manure them with dung or ashes. Flooding can no otherwise destroy weeds than by altering the soil in which they grow, and if it destroys one set of weeds, it must certainly favour the growth of another: if those plants which thrive best in a dry situation are destroyed by the alteration which now takes place in the soil, those which are fond of a moist situation will proportionably flourish. If the *flote fescue* grass was immediately produced by flooding, we should find all those meadows which have undergone this operation to contain nothing but this kind of grass, whereas the richest and best meadows in Hampshire contain scarce a single blade of it: the fact is, this grass will not flourish in meadow land, unless you convert it into a kind of bog or swamp, and I believe few landed Gentlemen will think this an improvement, or thank Mr. Kent for giving them such a hint.

“Mr. Stillingfleet informs us that Mr. Deane a very sensible Farmer at Ruscomb, in Berkshire, assured him, that a field always lying under water of about four acres, that was occupied by his father when he was a boy, was covered with a kind of grass that maintained five farm-horses in good heart from April to the end of harvest without giving them any other food, and that it yielded more than they could eat. He at my desire brought me some of the grass, which proved to be the *flote fescue* with a mixture of *marsh bent*; whether this last contributes much towards furnishing so good pasture for horses I cannot say, they both throw out roots at the joints of the stalks and therefore likely to grow to a great length. In the index of dubious plants at the end of *Ray's Synopsis*, there is mention made of a grass under the name of *Gramen caninum supinum longissimum* growing not far from *Salisbury* twenty-four feet long; this must by its length be a grass with a creeping stalk: and that there is a grass in Wiltshire, growing in watery meadows, so valuable that an acre of it lets from ten to twelve pounds, I have been informed by several persons. These circumstances incline me to think it must be the *flote fescue*; but whatsoever grass it be it certainly must deserve to be enquired after”.

It may not be improper to add, that the account of the extraordinary long grass above mentioned, was taken by RAY from the *Phytographia Britannica*, which mentions the particular spot where it grew, viz. at Mr. Tucker's, at Maddington, nine miles from Salisbury; it is also remarked that *they fat Hogs with it*.

As it is now above a century since this enquiry was first made, is it not surprizing that no succeeding Botanic Writer should have acquired satisfactory information concerning it? I am promised specimens of the roots and seeds. Upon

Upon the whole, from the observations which we ourselves have made on this Grass and from what is to be collected from Authors, it appears that if it be cultivated to any advantage it must be in such meadows as are *naturally very wet and never drained*.

The quickest and perhaps the best method of propagating it would be by transplanting the roots at a proper season, and if the soil prove suitable, from the quickness of its growth, and its creeping Stalk, it would soon exclude most other plants, and produce a plentiful crop.

In foreign countries the seed of this Grass seems to be an object of more importance than the grass itself, the following is the substance of what Mr. SCHREBER has said concerning it, (vid. *Beschreibung der Gräser* p. 40.) "The seed has a sweet and pleasant taste particularly before it comes to its full growth, whence the plant has acquired the name of *Manna Grass*. Ducks and other water-fowl feed on it with much eagerness (LINNÆUS has remarked that the Water-fowl are very well acquainted with the method of collecting these seeds) it has been observed likewise that Fish are fond of it, and that Trout in particular thrive in those rivers where this grass grows in plenty and sheds its seeds; but it is not only for Birds and Fish but also for Man a palatable and nutritious food, and has for many years past been known at Gentlemen's tables under the name of *Manna-Grout*.

"The Manna Grass is of two kinds the one *Panicum sanguinale* or *Cocks-foot Panic-Grass* the other *Festuca fluitans* which we have now described; the former is cultivated in several parts of Germany, and its seed somewhat resembles that of Millet, the latter is collected in great abundance from the plant as it grows wild in *Poland, Lithuania, the new Marche* and about *Franckfort* and other places in *Silesia* as also in *Denmark* and *Sweden* and hence exported to all parts.

"The common method they make use of to gather and prepare this seed in *Poland, Prussia, and the Marche* is as follows. At sun rise the seed is gathered or beat from the dewy grass into a horse-hair sieve, and when a tolerable quantity is collected, it is spread on a sheet and dried fourteen days in the sun; it is then thrown into a kind of wooden trough or mortar, straw or reeds laid between it, and beat gently with a wooden Pestle so as to take off the chaff and then winnowed. After this it is again put into the mortar, in rows, with dried Marygold-flowers, Apple, and Hazel leaves, and pounded until the Husk is entirely separated and the seed appears bright, it is then winnowed again, and when it is by this last process made perfectly clean it is fit for use. The Marygolds are added with a view to give the seeds a finer colour. The most proper time for collecting them is in July. A Bushel of the seed and chaff, yields about two quarts of clean seed.

"When boiled with milk or wine they form an extremely palatable food, and are most commonly made use of whole in the manner of *Sago* to which they are in general preferred.

In the month of *October* last, I discovered in a watery ditch, which runs through a meadow not far from Kent-Street Road an uncommon appearance in some of the seeds of this grass, and on a farther examination, I found whole Panicles the seeds of which were affected in a similar manner, instead of being of their natural size, and colour, they were enlarged to a very great degree, assumed externally a blackish colour, and were more or less incurved. Struck with the novelty as well as oddity of the appearance I conjectured at first that it was a disease occasioned by some Insect, I examined it more attentively, but could not find the least cause to suppose that an Insect had been concerned in it. The surface of some of these seeds was rough, and chopped, they were light as to weight, internally of a whitish colour, insipid in their taste but not disagreeable. Having a little before this been favoured with a sight of some *horned Rie* it now occurred to me that this was the same disease which had been said to affect the *Rie* only, and farther enquiry confirmed my conjecture.

As this singular disease of the *Rie* has first been noticed by the French, and as some very uncommon circumstances have attended it, it cannot fail of proving acceptable to our readers to lay before them the substance of what they have said concerning it. In the *Histoire de L'Academie royale des Sciences* there is an account given of a particular species of Gangrene or Mortification which attacked many persons in some particular provinces of France. It began generally at the toes and sometimes spread as high as the thigh. Out of fifty people there was but one that was attacked with this disease in the hands and what was equally remarkable there were no females affected with it except some little Girls.

"It appears that this singular malady attacked only the lower sort of people, and that too in years of scarcity, that it proceeded from bad nourishment, and principally from eating bread made of a certain black and diseased corn called *Ergot*, from the grains assuming somewhat of the form of a Cocks Spur. vid. fig. 12.

"The manner in which this singular monstrosity of the Corn is produced is thus related by Monsieur FAGON.

"There are certain mists which prove injurious to the corn, and from which the greatest part of the Ears of the *Rie* defend themselves by their beards. In those however which this hurtful humidity can strike and penetrate, it rots the skin which covers the grain, blackens it, and alters the substance of the grain itself, the juices which form the seed being no longer kept within their ordinary bounds by the skin, are carried hither in two great an abundance and amassing themselves irregularly form this monstrous appearance.

"He observes that it is *only in Rie* that the *Ergot* is to be found, that the poor people do not separate this grain from that which is good, that it was only in such particular seasons as favoured the growth of the *Ergot* that this disease was prevalent, that the country people after eating bread made of this bad corn perceived themselves as if drunk, and after this the mortification generally took place, that in some provinces there was but little of this *Ergot* this species of disease was not known.

"From the observations made by the Farmers of that country it appears that this bad species of grain is produced in the greatest abundance in such land as is wet and cold, and particularly in rainy seasons. The Poultry refused it when given them, nevertheless if by accident they had eaten it they did not appear to be hurt by it. When sown (as might be expected) it did not vegetate."

A kind of mortification very similar to the above described was observed in this Kingdom some years ago; it affected the same kind of people and on enquiry it was found that they had fared very hard, and that the bread which they had eaten was made of the *tailings* or *screenings* of Corn, but it was not ascertained whether it contained any of the *Ergot* or not.

From the insipid taste of this corn, as well as from its not proving fatal to Poultry, it seems exceedingly probable that it is not in itself noxious, any otherwise than as it affords no nourishment; and that those people who have eaten of this corn, have in fact been abridged of a proportionate quantity of food, hence from an impoverished state of the fluids and a weak action of the vessels this species of Mortification might easily be induced.





Festuca setacea?

Pub. by W. Curtis Sculp. & Co. New York, 1841.

FESTUCA LOLIACEA. DARNEL FESCUE-GRASS.

FESTUCA. Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis. Spicula oblonga, teretiuscula, glumis acuminatis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

FESTUCA *lolicea* spicata, spiculis alternis sessilibus, compressis muticis. Hudf. Fl. Angl. ed. 1. p. 38.

POA locustis distichis, spicatis, muticis. Hall. Hist. n. 1452.

PHŒNIX longius spicata. Park. Theat. p. 1146. fig. to the left?

From the various appearances which this plant assumes, it may be styled the very Proteus of Grasses; in its most usual form it bears a resemblance to the *Lolium perenne*, and hence it has been considered by some as a variety of that plant, and as such it is figured by MORISON; when branched, which it frequently is, it approaches near to, and has been taken for the *Festuca pratensis*, but it indisputably is a distinct plant from both.

With us it grows spontaneously, and plentifully in moist fertile meadows.

In root, stalk, leaves, and habit, it comes so near to the *Lolium perenne* as scarcely to be distinguished from it, but usually exceeds it in height by about one third; the flowers in general grow in a simple spike, from eight inches to a foot in length, bending a little towards the top; the spiculæ are sessile, nearly an inch long, diverging from and for the most part placed obliquely to the rachis, sometimes standing on foot-stalks of different lengths, the lowermost ones about an inch long, nearly round, flattened a little on the sides, running out to a point; the uppermost ones shorter and somewhat broader, containing from ten to fifteen flowers; the calyx usually consists of two valves unequal in size, the innermost frequently small, lateral, and sometimes wanting; the other parts of the fructification are very similar to those of the *pratensis* and *elatior*.

The flowers, as we before observed, usually grow in a simple spike: this spike not unfrequently occurs branched; then its appearance is greatly altered, and it approaches nearer to the *festuca pratensis*; but in that state it is distinguished from it by the length of its spiked panicle; most commonly the branches grow from the base of the spike, sometimes from the middle; in Battersea meadows, where this grass is found abundantly, I have observed a variety, in which the spiculæ were shorter than usual, and two or three of them grew together from the same point; but the grand difficulty which the student has to encounter in relation to this grass is, when he meets with that variety of it, which having shorter and broader spiculæ than usual, resembles *Lolium perenne* so much, as to make him ready to exclaim, "they are the same:" in this dilemma there are three characters, some one of which I have never yet known to fail: first, the situation of the spiculæ with respect to the rachis; the edge of these in the *Lolium* is always parallel with the rachis, which gives the spike a flat appearance; in the *loliacea* they are placed more or less obliquely: secondly, in the *Lolium perenne* there is never more than one valve to the calyx, which is a strong one, usually two thirds as long as the spicula; in the *Fest. lol.* there is for the most part two, though it often happens that the inner one is very small, imperfect, and sometimes wanting altogether: but it happens very rarely indeed that the inner valve is wanting in all the spiculæ of a spike from the same root; should this character fail, our dependance must be, thirdly, on the length of the outer valve of the calyx, which rarely is more than one third as long as the spicula.

We have dwelt thus minutely, tediously we fear some may think, on these circumstances, from a wish to remove all doubts respecting this plant, and save such as may honour the Flora Lond. with their perusal, from experiencing the difficulties and perplexities in which it has frequently involved us.

The *Festuca loliacea* comes into bloom about the same time as the *pratensis*, it is therefore not so early as some other grasses; we have found it from many years culture a hardy perennial of very quick growth, producing a larger but somewhat similar crop to ray grass, succeeding best in a moist soil; it is however rather harsh and stalky; those qualities excepted it would appear to be equal in goodness to some of the best of our pasture grasses, and as such we recommend it to the notice of the Agriculturist: there is one circumstance attends this grass which we must not omit to make known, as it highly concerns its culture, and affords a somewhat unusual instance of vegetable economy: the cultivated plant has produced me no perfect seeds, either at Lambeth-Marsh or Brompton; the same nearly may be said of the *elatior*, while the *pratensis* has constantly produced good seeds in abundance.

In the first edition of Mr. HUDSON'S Fl. Angl. we find this *Festuca* under the name of *loliacea*, a name highly proper, whether we consider it as referring to the *Lolium perenne*, which it so much resembles, or to the affinity it bears to the genus *Lolium*; for it certainly is the connecting link of the *Festuca* and *Lolium*; we have to regret, however, that the ingenious author should derogate from the merit of making it a species, by considering it in the second edition of the same work as a variety of the *Festuca fluitans*.

Partes Fructificationis.

Fig. 1. Spicula.

2. Glumæ calycinæ.

3, 4. — Corollacæ.

5. Nectaria.

6. Stamina.

7. Pistillum.

Parts of Fructification.

Fig. 1. One of the Spiculæ.

2. Glumes of the Calyx.

3, 4. — Corolla.

5. The Nectaries.

6. The Stamina.

7. The Pistillum.





Bromus Holcus



ed. m.

BROMUS MOLLIS. SOFT BROME GRASS.

BROMUS *Linnaei Gen. Pl.* TRIANDRIA DIGYNIA.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

BROMUS *mollis* panicula erectiuscula, spiculis ovatis pubescentibus, aristis rectis, foliis mollissime villosis.

Linnaei Syst. Vegetab. p. 102. *Sp. Pl.* p. 112.

BROMUS hirsutus, locustis septifloris, ovato conicis. *Haller hist.* p. 1504.

BROMUS Polymorphus. *Scopoli Fl. Carniol.* p. 80.

FESTUCA avenacea hirsuta, paniculis minus sparsis. *Raii Synop.* p. 413 *Hudson Fl. Angl.* p. 39. n. 1.

Secalinus. Schreber. Gram. pl. 6. fig. 1.

RADIX biennis *

CULMUS pedalis ad tripedalem, erectus; GENICULI tumidi, cylindracei.

FOLIA cum VAGINIS pilis mollibus vestita.

PANICULA erectiuscula, nunc coarctata nunc diffusa.

SPICULÆ ovato-acutæ, turgidæ, subcompressæ, plerumque villosæ, octofloræ, circa oras glumarum albidæ. fig. 1.

CALYX: GLUMA bivalvis, valvulis inæqualibus, muticis. fig. 2.

COROLLA: GLUMA bivalvis, valvulâ exteriori lata, concava, striata, aristata, fig. 4. interiori planiuscula, ciliata, lanceolata. fig. 3. ARISTA valvulis paulo longior, subrecta, fig. 4.

NECTARIUM: Glumula bipartita, ad basin petali interioris, fig. 5, parum auct:

STAMINA: FILAMENTA tria capillaria, ANTHERÆ primum flavæ, oblongæ, dein fuscæ et bifurcatæ. fig. 7. 6. auct:

PISTILLUM: GERMEN ovatum, apice submarginatum, fig. 8. STYLI duo, ad basin usque plumosi, ex uno latere germinis enati. fig. 9.

SEMEN oblongum, concavum, calyci adnatum fig. 10. denudatum fig. 11.

ROOT biennial *

STALK from one to three feet high, upright; the JOINTS swelled and cylindrical.

LEAVES together with their SHEATHS covered with soft hairs.

PANICLE nearly upright, sometimes close, sometimes spreading.

SPICULÆ oval and pointed, turgid, flattish, generally villous, containing eight flowers, whitish about the edges of the Glumes. fig. 1.

CALYX: a GLUME of two valves, the valves unequal without any beard, or arista, fig. 2.

COROLLA: a GLUME of two valves, the outermost valve broad, hollow, striated, and bearded, fig. 4; the innermost flattish, ciliated or hairy at the edges and pointed, fig. 3; the ARISTA a little longer than the valves and nearly straight, fig. 4.

NECTARIUM: a small kind of Glume deeply divided, placed at the base of the inner petal, fig. 5. a little magnified.

STAMINA: three FILAMENTS very small, ANTHERÆ first yellow and oblong, lastly brown and forked at each end, fig. 7. 6. magnified.

PISTILLUM: GERMEN oval, with a slight depression at top, fig. 8. two STYLES feathery quite down to the bottom, proceeding from one side of the Germen, fig. 9.

SEED oblong, concave, adhering to the Calyx fig. 10. the Calyx taken off, fig. 11.

OUR Farmers in general are not very warm in their recommendations of this Grass, nevertheless it abounds in most of our best meadows; it springs up early, and ripens its seed generally about the time of Hay-making. The seed is large, and each panicle contains nearly as much as that of a common Oat, indeed it seems to have more pretensions to the name of Corn than of Grass.

Although Cattle may not be so fond of the leaves, and panicle of this Grass while green as of some others, yet may it not (when cut down as it usually is when the seed is nearly ripe) contribute to render the hay more nutritive? and hence may it not be a proper Grass to sow with others? It seems at least to deserve the attention of the Farmer.

There is perhaps no class of plants more affected by difference of soil and situation than the Grasses, hence the same plant has often been divided into several species; and to such Varieties is the present Plant incident, as to occasion SCOPOLI to give it the name of *Polymorphus*.

When it grows on a Wall, or dry Bank, the Spiculæ are generally more upright, and closer together; when the soil is rich and moist, the Spiculæ spread out, and the whole plant becomes much larger; in Meadows the Spiculæ frequently lose their villous appearance and become perfectly smooth. To determine this species then with more certainty, recourse must be had to the parts of fructification.

* According to Linnæus.





Bromus diandrus

S. Edwards del. F. Sarg. sculp.

BROMUS DIANDRUS. DIANDROUS BROME-GRASS.

BROMUS Linn. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis. Spicula oblonga, teres, disticha; arista infra apicem.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

BROMUS *diandrus* panicula erecto-patente, spiculis multifloris, flosculis diandris.

BROMUS *muralis* panicula patulo-erecta simplici, spiculis linearibus, floribus acuminatis scabris, aristis longis. Hudf. Fl. Angl. ed. 2. p. 50.

BROMUS *madritensis* panicula rariore patulo-erecta; spiculis linearibus; intermediis geminis, pedicellis superne incrassatis. Linn. Syst. Vegetab. ed. 14. Murr. p. 120. ?

GRAMEN bromoides, pumilum, locustis erectis, majoribus, aristatis. Scheuchz. Agr. ed. Hall. p. 260.

BROMOS *sterilis* erecta panicula major. Barr. ic. 76. n. 1.

We many years since observed the grass here represented, growing on the wall of a garden near Battersea Church, situated at a small distance from the high-road which leads from the bridge to Battersea, out of which you turn in proceeding to the church;—a few yards down this turning, on the garden-wall to the right, it will readily be found: for on the same spot, we observed it again this present summer, in company with Mr. OGLE, Surgeon, Great Russell-Street, Bloomsbury; on the top of the wall it was in a stunted state, at the foot of it more luxuriant.

On the first discovery of this plant, I was induced, from a cursory view, to regard it as a variety of *Bromus sterilis*, with peduncles shorter than usual; but having introduced it to my garden, and found that several years culture made no alteration in its principal character, I had little doubt of its being a distinct species, and the little I had was completely removed, when I came to dissect the parts of fructification; for, to my great astonishment, I found that there were only two stamina to each flower, and that generally.

Growing in the same situation as the *sterilis*, it is a smaller plant; the spiculæ in the *sterilis* standing on long peduncles (whereby they are rendered weaker) constantly droop; in the *diandrus* the peduncles being short, support the spiculæ in an upright position; this gives a different air to the plant, which otherwise from the great similarity of its stalks, foliage, size and form of its spiculæ, would be very liable to be confounded with the *sterilis*.

In dry seasons, when the *Bromus diandrus* grows on walls, it is much shorter than the plant we have figured; in such situations, more particularly as the plant advances to maturity, the panicle closes together, and the spiculæ become of a brownish purple hue; in this state it differs still more obviously from the *sterilis*, and may be distinguished even at a distance: we are not, however, to regard this plant as confined to walls; like the *sterilis*, it is found on them by accident: we observed it in the year 1793, on the banks of the Severn, at the foot of St. Vincent's Rock, where my very good friend, Dr. FORD, then resident at Bristol, also observed it to grow in great plenty.

If our plant be the *Bromus madritensis* of LINNÆUS, which we are induced to believe, from its according so well with the figure of BARRELIER, to which he refers, it will be found to be a native of Spain, and Italy, and perhaps of other different parts of Europe: there can be little doubt of its being the *muralis* of Mr. HUDSON, though he has omitted to notice the peculiar circumstance of its having only two stamina, a phenomenon so unusual in plants of this tribe, that we have thought it ought to receive its trivial name from it, more especially as the plant is found to be confined to no particular country or situation.

It flowers in May and June, and ripens its seeds in July; is an annual of ready growth, and much disposed to become a weed.

Unless the flowers are examined when very young, the fresh stamina are not to be seen, but the flowers out of bloom generally retain them in a dried state.

Of foreign grasses there are several described with two stamina, in particular the *Saccharum Thunbergii* and *Koenigii*, and the *Agrostis diandra*, Linn. Syst. Nat. ed. 13. Gmelin. of our English grasses, none such as yet have been observed, besides the present one, and the *Anthoxanthum odoratum*.

Partes Fructificationis.

Fig. 1. Glumæ Calycinæ.

Fig. 2. Glumæ Corollacæ.

Fig. 3, 4, 5, 6. Gluma Corollacea interior, Stamina, Pistillum, Nectaria, lente auct.

Fig. 7. Pistillum magis auct.

The Parts of the Fructification.

Fig. 1. The Glumes of the Calyx.

Fig. 2. The Glumes of the Corolla.

Fig. 3, 4, 5, 6. The inner Glume of the Corolla, Stamina, Pistillum, and Nectaries, magnified.

Fig. 7. The Pistillum more enlarged.





Bromus sterilis

BROMUS STERILIS. BARREN BROME GRASS.

BROMUS *Linnaei. Gen. Pl. TRIANDRIA DIGYNIA.*

Raii Gen. 27. HERBÆ GRAMINIFOLIÆ, FLORE IMPERFECTO CULMIFERÆ.

BROMUS *sterilis*, panicula patula, spiculis oblongis distichis, glumis subulato-aristatis. *Lin. Syst. Vegetab. p. 103.*

BROMUS panicula nutante; locustis septifloris; glumis argute lanceolatis, lineatis, subhirsutis. *Haller. hist. n. 1505.*

FESTUCA avenacea sterilis elatior. *Baubin. pin. 9. 10.*

BROMOS herba, five avena sterilis. *Parkinson, 1147. Bromos sterilis. Gerard. emac. Raii Synop. p. 412. Great wild Oat-Grass or Drank. Hudson. Fl. Angl. p. 40. Scopoli. Fl. Carniol. p. 78.*

RADIX fibrosa.

CULMI pedales ad bipedales, suberecti, teretes, laeves, ad basin infracti; Geniculi tumidi.

FOLIA longa, plana, unâ cum vaginis mollissime villosa.

PANICULA magna, nutans; PEDUNCULI plerumque simplices, ad basin tumidi.

SPICULÆ biunciales, subcompressæ, apice divergentes, fig. 1.

CALYX: GLUMA bivalvis, Valvulis inæqualibus linearilanceolatis, fig. 2.

COROLLA: bivalvis, Valvulis inæqualibus, exteriore longiore, concava, striata, apice membranacea, bifida, ARISTA recta Corollâ duplo longiore terminata, fig. 3. Valvulâ interiore planiuscula, ciliata, fig. 4.

NECTARIUM: GLUMULÆ duæ acuminatæ, ad basin biglandulosæ, fig. 6.

STAMINA: FILAMENTA tria, capillaria, ANTHERÆ flavæ, fig. 5.

PISTILLUM: GERMEN oblongum, apice truncatum five emarginatum, pars inferior ex quâ styli prodeunt et quod verum Germen esse videtur, nitida, fig. 7. pars superior albida, villosa, fig. 8. STYLI duo plumosi, patuli, fig. 9.

SEMEN ex purpureo-fusum, oblongum, aristatum, calyce tectum, fig. 10, denudatum, fig. 11.

ROOT fibrous.

STALKS from one to two feet high, nearly upright, round and smooth, at bottom crooked or elbowed; the Joints swelled.

LEAVES long and flat, covered, together with their sheaths with soft short hairs.

PANICLE large, and drooping, the PEDUNCLES generally simple, and swelled at their base.

SPICULÆ about two inches long, flattish and diverging toward the extremity, fig. 1.

CALYX: a GLUME of two Valves, the valves unequal, long and narrow, fig. 2.

COROLLA: composed of two Valves, which are unequal, the exterior Valve longest, concave, striated, at top membranous and bifid, terminated by a straight ARISTA twice the length of the Corolla, fig. 3. the interior Valve nearly flat, and ciliated, fig. 4.

NECTARY: two small long-pointed GLUMES with a small gland at the base of each, fig. 6.

STAMINA: three small FILAMENTS: the ANTHERÆ yellow, fig. 5.

PISTILLUM: the GERMEN oblong, at top flat or slightly emarginate, the bottom part from whence the Styles proceed, and which seems to be the true Germen, is smooth and shining, fig. 7. the upper part white and villous, fig. 8. two STYLES, feathery and spreading, fig. 9.

SEED of a purplish brown colour, oblong, bearded, enclosed within the Calyx, fig. 10. the Calyx stripped off, fig. 11.

Much praise is due to the late ingenious Mr. STILLINGFLEET for his attempts to introduce, more generally among Farmers, a knowledge of our most useful English Grasses: his observations on this subject are so exceedingly pertinent that the insertion of them cannot fail to prove highly acceptable to such as have the promotion of Agriculture at heart.

"It is wonderfull to see how long mankind has neglected to make a proper advantage of plants of such importance, and which in almost every country are the chief food of cattle. The farmer for want of distinguishing, and selecting grasses for seed, fills his pasture either with weeds, or bad, or improper grasses; when by making a right choice, after some trials he might be sure of the best grass, and in the greatest abundance that his land admits of. At present if a farmer wants to lay down his land to grass, what does he do? he either takes his seeds indiscriminately from his own foul hay-rick, or sends to his next neighbour for a supply. By this means, besides a certain mixture of all sorts of rubbish, which must necessarily happen; if he chances to have a large proportion of good seeds, it is not unlikely, but that what he intends for dry land may come from moist, where it grows naturally, and the contrary. This is such a slovenly method of proceeding, as one would think could not possibly prevail universally; yet this is the case as to all grasses except the darnel grass, and what is known in some few countries by the name of the Suffolk grass; and this latter instance is owing, I believe, more to the soil than any care of the husbandman. Now would the farmer be at the pains of separating once in his life half a pint, or a pint of the different kinds of grass seeds, and take care to sow them separately; in a very little time he would have wherewithal to stock his farm properly, according to the nature of each soil, and might at the same time spread these seeds separately over the nation by supplying the seed-shops. The number of grasses fit for the farmer is, I believe small; perhaps half a dozen, or half a score are all he need to cultivate; and how small the trouble would be of such a task, and how great the benefit, must be obvious to every one at first sight. Would not any one be looked on as wild who should sow wheat, barley, oats, rye, pease, beans, vetches, buck-wheat, turnips and weeds of all sorts together? yet how is it much less absurd to do what is equivalent in relation to grasses? does it not import the farmer to have good hay and grass in plenty? and will cattle thrive equally on all sorts of food? we know the contrary. Horses will scarcely eat hay, that will do well enough for oxen and cows. Sheep are particularly fond of one sort of grass, and fatten upon it faster, than on any other in Sweden, if we may give credit to Linnaeus. And may they not do the same in England? How shall we know till we have tried? Nor can we say that what is valuable in Sweden may be inferior to many other grasses in England; since it appears by the Flora Suecica that they have all the good ones that we have. But however this may be I should rather chuse to make experiments, than conjectures."

The present Grass is not one of those which are worth the Farmer's cultivation, but so much the reverse, that most Authors have called it *sterilis*, not because it is really barren but from its inutility with respect to Cattle.

It grows exceeding common under hedges and flowers in May and June.

In order to have a clear idea of the structure of the parts of fructification in the Grasses, they should be examined just at the time, or rather before the *Antheræ* have discharged their *Pollen*, a small space of time makes a considerable alteration in their appearance.

In this species of *Bromus* as well as in the *Bromus mollis* the Styles proceed from the middle of the Germen and not from the top, this is a peculiarity which seems to have escaped the notice of Schreber who has written professedly on the Grasses, and examined them with more accuracy than any preceding Writer. In his figures the Styles proceed always from the Apex of the Germen.





Bromus hirsutus

Janssen Sculp

BROMUS HIRSUTUS. HAIRY-STALK'D BROME-GRASS.

BROMUS *Linnaei Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 2-valvis. *Spicula* oblonga, teres, disticha; arista infra apicem.

Raii Syn. Gen. 27. GRAMINIFOLIAE FLORE IMPERFECTO CULMIFERA.

BROMUS *hirsutus* panicula nutante scabra, spiculis teretibus sublinearibus decemfloris, aristis rectis, vaginis foliorum hirsutis.

BROMUS *ramosus* panicula nutante scabra, spiculis linearibus decemfloris, arista longioribus, foliis scabris. *Hudson Fl. Angl.* p. 40.

BROMUS foliis hirsutis, per oras asperimis, locustis glabris, teretibus, novemfloris. *Haller hist. n.* 1503.

BROMUS *giganteus*. *Scopoli Flor. Carn.* var. 2. villosa et major.

GRAMEN Avenaceum dumetorum panicula sparsa. *Raii Syn.* p. 415. *Hist. Plant.* p. 1289. Bush or Wood Oat-Grass, with a sparsed panicle.

GRAMEN Avenaceum dumetorum paniculatum majus hirsutum. *H. Ox.* 3. 213. 27.

RADIX perennis, plurimis fibris, flexuosis, flavescen-
tibus instructa.

CULMUS tripedalis, ad orgyalem aut etiam supra,
erectus, tribus plerumque nodis articulatus,
solidus, striatus.

FOLIA: *Vagina* striata, pilis longis, crebris, rigidiusculis,
deorsum versis hirsuta: *Folia* ipsa pedalia, fe-
muncialia, deflexa, striata, rarioribus et brevi-
oribus pilis usque ad margines et mediam
costam praecipue donata.

PANICULA pedalis, sparsa, rami binati aut ternati,
patentes, nutantes, scabri, saepe flexuosi.

SPICULAE plerumque binae, sesquiunciales, tenues, te-
retiusculae, rectae, vix hirsutae, decemflorae, ad
basin annulo diaphano notatae, fig. 3: ARISTAE
breves, scabrae, rectiusculae, fig. 1.

CALYX: GLUMA bivalvis, fig. 2; valvulis inaequali-
bus, majore concava, interne nitida, trinerve,
mucronata, nervis scabris, minore unicarinata
acuminata.

COROLLA: GLUMA bivalvis, valvulis inaequalibus,
exteriore trinerve, nervis exstantibus, nervo
medio in Aristam rectiusculam Corollam brevior-
em definente, interiore planiuscula, ciliata,
breviore, fig. 4, 5, 6.

NECTARIUM GLUMULAE duae ad basin Germinis,
fig. 8.

STAMINA: FILAMENTA tria, capillaria: ANTHERAE
bifurcae, flavae, fig. 7.

PISTILLUM: GERMEN subovatum, basi nudum, a-
pice villosum: STYLI duo, usque ad basin
ramosi, fig. 10.

SEMEN planiusculum, aristatum, glumis adhærenti-
bus, fig. 11, 12, 13.

ROOT perennial, furnished with numerous, crooked,
yellowish fibres.

STALK from three to six feet high, or more, upright,
consisting generally of three joints, solid and
finely grooved.

LEAVES: the *sheath* striated, covered with numerous long
hairs, which are somewhat rigid, and bend back-
wards: the *Leaves* themselves a foot long, and
half an inch broad, beset with fewer and shorter
hairs, and those chiefly at the edges and midrib.

PANICLE a foot long, spreading, the branches grow-
ing two or three together, hanging down,
rough, and often crooked.

SPICULAE generally growing two together, an inch
and a half long, slender, roundish, straight,
scarcely hirsute, containing ten flowers, and
marked at the base with a pellucid ring, fig. 3.
The ARISTA short, rough, and nearly straight,
fig. 1.

CALYX: a GLUME of two valves, fig. 2; the valves
unequal; the larger one concave, and shining
within, having three ribs, and terminating
in a short point, the ribs rough; the smaller
one having only one rib, and a more tapering
point.

COROLLA: a GLUME of two valves, the valves une-
qual, the exterior one having three prominent
ribs, the middle one of which terminates in a
straightish Arista, shorter than the Corolla;
the inner one flattish, edged with hairs, and
shorter than the other, fig. 4, 5, 6.

NECTARY; two little GLUMES at the base of the
Germen, fig. 8.

STAMINA: three FILAMENTS, very fine: ANTHERAE
forked and yellow, fig. 7.

PISTILLUM: GERMEN somewhat oval, naked at bot-
tom, at top villous: STYLES two, branched
quite to the bottom, fig. 10.

SEED flattish, terminated by an Arista, the Glumes
adhering to it, fig. 11, 12, 13.

THAT the plant here figured, is not the *Bromus ramosus* of LINNÆUS, I have learned from Dr. SOLANDER and Mr. BANKS, whose authority in this matter will not be controverted.

I have therefore called it *hirsutus*, from a wish that a trivial name might be given it, which should not only characterize the plant, but at the same time, distinguish it from a Grass which is undoubtedly often mistaken for it, as it frequently grows with it, is nearly of the same height, and flowers about the same time: I mean the *Bromus giganteus* of LINNÆUS, figured by SCHREBER, the leaves and stalks of which are perfectly smooth.

The *Bromus hirsutus* is the tallest of our English grasses, often exceeding six feet in height, which renders it a very conspicuous grass. The *Festuca elatior*, and *Bromus giganteus*, will however often grow nearly as high in particular situations.

It occurs in most of our hedges in the environs of London, particularly about *Hampstead*; abundantly also in *Kent*; and flowers in June and July.

Exclusive of its height before mentioned, it is distinguished from all our other grasses by the hairiness of its stalk, or rather the sheaths of the leaves which cover it; and this, so far as I have hitherto observed, is an infallible criterion.

It appears to be too coarse a grass to be cultivated for cattle; and we do not learn that it has been applied to any other purposes.





Bromus giganteus.

BROMUS GIGANTEUS. TALL BROME GRASS.

BROMUS *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 2-valvis. *Spicula* oblonga, teres, disticha: arista infra apicem.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

BROMUS *giganteus* panicula nutante, spiculis quadrifloris: aristis brevioribus. *Lin. Syst. Vegetab.* p. 103. *Spec. Plant.* p. 114. *Fl. Succ. n.* 34.

BROMUS *giganteus* panicula ramosa nutante, ramis binatis, spiculis subquadrifloris arista brevioribus. *Hudson Fl. Angl.* p. 51.

BROMUS glaber, locustis quadrifloris nutantibus, aristis longissimis. *Haller. hist. n.* 1510.

BROMUS *giganteus*. *Scopoli Fl. Carn. n.* 116. VAR. 1. *glabra et minor*.

GRAMEN bromoides aquaticum latifolium, panicula sparsa tenuissime aristata. *Scheuchz. Agrost.* p. 264. t. 5. fig. 17.

GRAMEN sylvaticum glabrum, panicula recurva. *Vaill. Paris,* p. 93.

GRAMEN avenaceum glabrum, panicula e spicis raris strigosis composita, aristis tenuissimis. *Raii hist.* 1909. *Syn.* p. 415. *Lightfoot Fl. Scot.* p. 104.

RADIX perennis, fibrosa.

CULMUS tripedalis et ultra, erectus, lævis, geniculis plerumque purpureis.

FOLIA femunciam lata, læte viridia, lævia, inferne nitida, basi appendiculis ex fusco purpureis utrinque, caulem amplexantibus instructa, vagina inferne scabriuscula, minime pilosa, superne glabra, membrana brevissima.

PANICULA ampla, pedalis etiam, sparsa, ramis plerumque binatis, nutantibus, secundis, scabriusculis.

SPICULÆ ovato-lanceolatae, subquinqiflorae, femunciales, plerumque virides, læves, aristatae: Aristæ albæ, spiculis paulo longiores, flexuosæ, scabræ.

CALYX: GLUMA bivalvis, valvulis inæqualibus, acuminatis, viridibus, marginibus albidis, majore lineis tribus, minore unica subdiaphana notata, fig. 1.

COROLLA: GLUMA bivalvis, valvulis subæqualibus, viridibus, lævibus, margine albis, exteriore majore, concava, obsolete trinervis, aristata, arista glumæ longiore paulo infra apicem exsertâ, interiore minore, planiuscula, albida, fig. 2, 3.

NECTARIUM: GLUMULÆ duæ, acuminate, ad basin germinis, fig. 4.

STAMINA: FILAMENTA tria, capillaria, alba; ANTHERÆ flavæ, bifurcæ, fig. 5.

PISTILLUM: GERMIN obovatum, viride, nitidum; STYLI duo, patentes, ad basin usque ramosi, fig. 6. auct. fig. 7.

SEMEN oblongum, ex nigro purpurascens, intra glumas adhærentes, inclusum, fig. 8, 9.

ROOT perennial and fibrous.

STALK three feet or more in height, upright, smooth, the joints for the most part purple.

LEAVES half an inch broad, of a bright-green colour, smooth, shining underneath, furnished at the base on each side with two purplish-brown appendages, which embrace the stalk, sheath below a little rough to the touch, but not hairy, above smooth, the membrane very short.

PANICLE large, even a foot long, loose, branches generally growing in pairs, all one way, drooping, and roughish.

SPICULÆ ovato-lanceolate, containing about five flowers, half an inch in length, for the most part green, smooth, and bearded: Beards white, a little longer than the spiculæ, crooked, and rough.

CALYX: a GLUME of two valves, the valves unequal, pointed, green, with white edges, the large valve marked with three, and the small one with one somewhat transparent line, fig. 1.

COROLLA: a GLUME of two valves, the valves nearly equal, green, smooth, the edges white, the outer one largest hollow, faintly three-rib'd, and bearded, the beard longer than the glume, and proceeding from a little below the point, the interior one least, somewhat flat and whitish, fig. 2, 3.

NECTARY: two small pointed GLUMES at the base of the germen, fig. 4.

STAMINA: three capillary, white FILAMENTS; ANTHERÆ yellow and forked, fig. 5.

PISTILLUM: GERMIN inversely ovate, green and shining; STYLES two, spreading and branched quite to the bottom, fig. 6. magnified, fig. 7.

SEED oblong, of a blackish-purple colour, enclosed within the glumes which adhere to it, fig. 8, 9.

There is only one grass for which this species of *Bromus* is liable to be mistaken, and that is the *Bromus hirsutus* already figured, they are both large grasses, and grow in similar situations, indeed frequently together: they have been confounded by SCOPOLI, who makes the *hirsutus* a variety of the *giganteus*; but the least attention would have taught him, that they were materially different.

The sheath of the lower leaves in the *hirsutus* is covered with long stiff hairs, which are wanting in the *giganteus*; the leaves of the *giganteus* are glossy on the under side, and those of the stalk, near their extremities, appear as if a slack ligature had been tied round them; but there is a character almost peculiar to this grass, the base of the leaf is terminated by two small appendages, of a reddish-brown colour, which usually embrace the stalk, and will never fail to distinguish it from the *hirsutus*: the spiculæ also, if no other distinguishing character were present, would be all-sufficient, being shorter by almost one half, containing fewer flowers, and having arista or awns longer in proportion to the spiculæ and more crooked: we may add another character which we have discovered from cultivation, the *giganteus* is a perennial, whereas the *hirsutus* is only an annual or biennial, a circumstance which we were not sufficiently apprized of when we described that plant.

This grass is frequent enough in the neighbourhood of London, in woods, and under hedges, especially such as are accompanied by a wet ditch, nor is it uncommon by the sides of the Thames; the situation which it affects with us, is more agreeable to the name given it by SCHEUCHZER, than to the account delivered by LINNÆUS in his *Species plantarum*, where he says, *habitat in Europæ sylvis siccis*: we very rarely or never find it in meadows; hence, though a productive grass, there seems not much probability of its becoming a good grass for meadows or pastures.

It flowers from July to September.



AVENA FLAVESCENS. YELLOW OAT GRASS.

AVENA Lin. Gen. Pl. TRIANDRIA DIGYNIA.

Cal. 2-valvis, multiflorus: arista dorsali contortâ.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

AVENA *flavescens* panicula laxa, calycibus trifloris brevibus, flosculis omnibus aristatis. Lin. Syst. Vegetab. p. 105. Sp. Pl. 118. Fl. Suec. p. 103.

AVENA triantha, locustis teretibus, calycina gluma altera minima, petiolo villosa. Haller. Hist. p. 1497.

GRAMEN avenaceum pratense elatius, panicula flavescens, locustis parvis. Raii Syn. p. 407.

GRAMEN avenaceum, spica parva flavescens, locustis parvis. Moris. Hist. 3. p. 215. f. 8. t. 7. fig. 42. Scheuch. Agrost. p. 223. t. 4. f. 18.

Hudson. Fl. Angl. ed. 2. p. 53.

Lightfoot Fl. Scot. p. 106.

Schreber. Gram. tab. 9.

RADIX perennis, culta manifeste repens.

CULMUS pedalis ad bipedalem, erectus, teres, tribus aut quatuor geniculis purpurascens instructus, hirsutus.

FOLIA plana, ad duas lineas lata, unâ cum vaginâ quâ striata est pilis modice longis hirsutula.

PANICULA triuncialis et ultra, dum florent spiculæ quam maxime diffusa, e flavo virens, erecta; postea coarctata, subsecunda, e flavo-fusca, splendens.

SPICULÆ parvæ, bifloræ, etiam trifloræ et quadrifloræ, flosculis omnibus aristatis. fig. 3. 4. 9.

CALYX: Gluma bivalvis, valvulis inæqualibus, submembranaceis, acuminatis, alterâ majori fig. 1. 2.

COROLLA: Glumæ bivalvis, valvulis inæqualibus, alterâ minore subdiaphanâ, membranacea, penitus alba, apice bifida, altera majori tribus aut quatuor nervis viridibus insignita, concava, bifida, aristata. fig. 3. 6.

NECTARIUM: Glumulæ duæ longitudine germinis, apice laciniatæ. fig. 8.

ARISTA ex dorso circa medium valvulæ majoris erumpit, in vivâ planta recta, valvulâ duplo fere longior, in siccâ recurva. fig. 4. 9.

STAMINA: FILAMENTA tria, capillaria, longitudine florum, ANTHERÆ flavæ, bifurcatæ. fig. 5.

PISTILLUM: GERMEN ovale, nudum; STYLI duo, ramosissimi, ex apice germinis, deflexi. fig. 7.

SEMEN oblongum, acuminatum, nudum, valvulâ majori inclusum

ROOT perennial, when cultivated manifestly creeping. STALK from one to two feet high, upright, round, furnished with three or four purplish joints, and covered with numerous short hairs.

LEAVES flat, rarely exceeding two lines in breadth, together with the sheath which is finely grooved covered with hairs of a moderate length.

PANICLE three inches and more in length, while the spiculæ flower spreading as wide as possible, of a yellowish green colour and upright; afterwards closing together, with the spiculæ mostly one way, and becoming of a yellowish brown colour and shining.

SPICULÆ small, containing two, three, or four flowers, all of which have awns. fig. 3. 4. 9.

CALYX. A glume of two valves which are unequal, somewhat membranous, pointed, one larger than the other. fig. 1. 2.

COROLLA. A glume of two valves which are unequal, the least somewhat transparent, membranous, white, and bifid, the largest marked with three or four green nerves, hollow, bifid, and furnished with an awn. fig. 3. 6.

NECTARY: two small Glumes, the length of the germen, jagged at top. fig. 8.

AWN springing from about the middle of the back of the larger valve, in the living plant strait, almost twice the length of the valve, in the dried one crooked back. fig. 4. 9.

STAMINA: three FILAMENTS very fine, the length of the flowers; ANTHERÆ yellow, forked at both ends. fig. 5.

PISTILLUM: GERMEN oval, naked: STYLES two, very much branched, growing from the top of the germen, and hanging down. fig. 7.

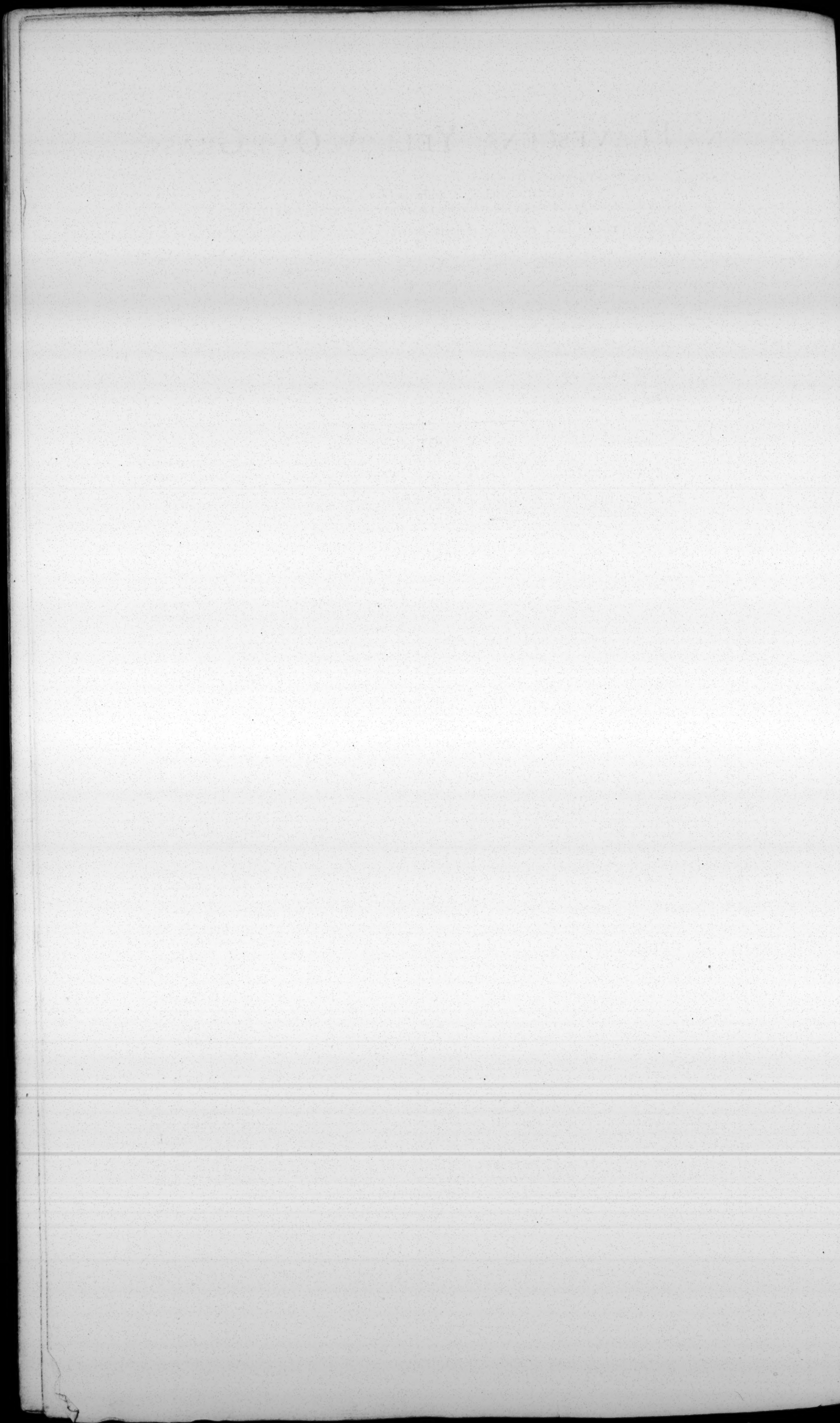
SEED oblong, pointed, naked, inclosed in the larger valve.

The term *flavescens* has with propriety been given to this species of *Avena*, as its panicle, especially on closing after it has flowered, is of a yellower hue than any of the others, and this is one character which may serve to distinguish it; added to this it is one of the least of the genus, its panicle is finely divided, its spiculæ are small, delicate, and generally contain two perfect flowers; and its leaves and stalks are *constantly hairy*: cultivated in a garden, it becomes larger in every respect, and the spiculæ contain three or more flowers.

We may remark that the Arista or Beard in the living plant is strait, but crooked in dried specimens.

Though not so common as the *Avena elatior*, it is to be found in most pastures, especially such as are elevated, in some meadows, and frequently on grassy banks by the road side, it flowers about the end of June.

Mr. STILLINGFLEET has not enumerated this grass among his valuable ones, yet it is more deserving of that distinction than some of those he has figured, especially the *mountain* and *silver Hair-grass*, the latter of which is a trifling annual with respect to agriculture, unworthy of the Farmer's notice: the yellow Oat-grass is a perennial, forms in many counties a principal part of the finest pasturage on the downs, and in divers meadows contributes to the goodness as well as greatness of the crop. As to time, it is not so early as many of the *Poas*, nor is it so late as some of the *Agrostis* tribe; on the whole, from the remarks I have made on it in its wild and cultivated state, I would recommend it as one of the few out of the many English grasses worth the husbandman's attending to.







Avena elatior.

AVENA ELATIOR. TALL OAT-GRASS.

AVENA Lin. Gen. Pl. TRIANDRIA DIGYNIA

Cal. 2 valvis, multiflorus: arista dorsali contorta.

Raii. Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

AVENA elatior paniculata, calycibus bifloris, flosculo hermaphrodito submutico, masculino aristato.

Lin. Syst. Vegetab. p. 104. Sp. Pl. p. 117. Fl. Suec. N. 102.

AVENA diantha folliculis basi villosis, majoris arista geniculata. Haller Hist. n. 1492.

GRAMEN nodosum avenacea panicula. Baub. pin. 2. Scheuchz. Agrost. p. 239.

GRAMEN caninum nodosum. Ger. em. 23.

GRAMEN caninum bulbosum vulgare. Park. 1075.

GRAMEN avenaceum elatius, juba longa splendens Raii. Meth. 179. Syn. p. 406. 4.

Hudson. Fl. Angl. ed. 2. p. 53.

Lightfoot Fl. Scot. p. 105.

Oeder Fl. Dan. t. 165.

Schreber Gram. t. 1.

RADIX perennis, fibrosa, fibris plurimis, flexuosis, fuscis, intertextis.

CULMI bi aut tripedales, etiam ultra, erecti, tribus quatuorve geniculis purpurascens distincti, teretes, laeves, basi in bulbillos saepe excrecentes.

FOLIA caulina, spithamea, etiam pedalia, duas tresve lineas lata, una cum vaginâ striata, laevia.

PANICULA longa, etiam pedalis, erecta, splendens, laxè coarctata, ramulis plurimis, inæqualibus, subsecundis.

SPICULÆ bifloræ, altero flosculo hermaphrodito, altero masculino. fig. 1.

CALYX, Gluma bivalvis, valvulis inæqualibus, membranaceis, acutis, albidis, majore nervis tribus viridibus, minore unico insignitis. fig. 2.

COROLLA maris: valvulae duæ, longitudine æquales, altera majore, concava, nervis sex viridibus notata, apicibus saepius purpurascens, acuta, aristata, Arista infra medium exsertâ, spiculâ longiore, geniculata, inferne spiraliter contorta, superne setacea; altera planiuscula, apice bicuspidata; valvulae hermaphroditi quoad formam vix discrepant, at nervus medius prope apicem valvulae exterioris, in aristam brevem excurrit, et basis ejusdem valvulae pilis plurimis obtegitur. fig. 3. 4.

NECTARIUM Glumulae duæ lanceolatae, basi subglobosae. fig. 6.

STAMINA tria, capillaria; ANTHERÆ oblongæ, flavæ, bifurcatae.

PISTILLUM: GERMEN subovatum, villosum; STYLIS duo, magni, ramosissimi, reflexi. fig. 7.

SEMEN oblongum, laeve, intra glumas calycinas basi pilosas, liberum fig. 8. 9. 10.

ROOT perennial, fibrous, the fibres numerous, crooked, of a brown colour, and matted together.

STALKS from two to three feet high, or even more, upright, having four or five joints of a purplish colour, round, smooth, the base often growing out and forming small bulbs.

LEAVES of the stalk six or seven inches or even a foot in length, from two to three lines in breadth, together with the sheath striated and smooth.

PANICLE long, even the length of a foot, upright, shining, loosely closing together, branches numerous, unequal, growing in some degree to one side.

SPICULÆ containing two flowers, the one male and the other hermaphrodite. fig. 1.

CALYX: a Glume of two valves, the valves unequal, membranous, pointed, whitish, the largest marked with three and the smallest with one green nerve. fig. 2.

COROLLA of the male flower; composed of two valves, equal in length, the largest hollow, and marked with six ribs, generally purple at top, pointed and bearded; Beard or awn growing out from below the middle of the valves, longer than the spicula, and jointed, on the lower part spirally twisted, on the upper bristle sharpened, the least flattish and terminating in two points; the valves of the hermaphrodite floscule differ but little from the male one as to shape but the midrib in the outer valve runs out into a short awn and the bottom of the same valve is covered with numerous hairs. fig. 3. 4.

NECTARY: two small Glumes, lanceolate, somewhat globular at bottom.

STAMINA: three FILAMENTS very fine, ANTHERÆ oblong, yellow, and forked.

PISTILLUM: GERMEN somewhat ovate, villous; STYLES two, large, very much branched and hanging down. fig. 7.

SEED oblong, smooth, contained loosely within the glumes of the calyx which are hairy at bottom, fig. 8. 9. 10.

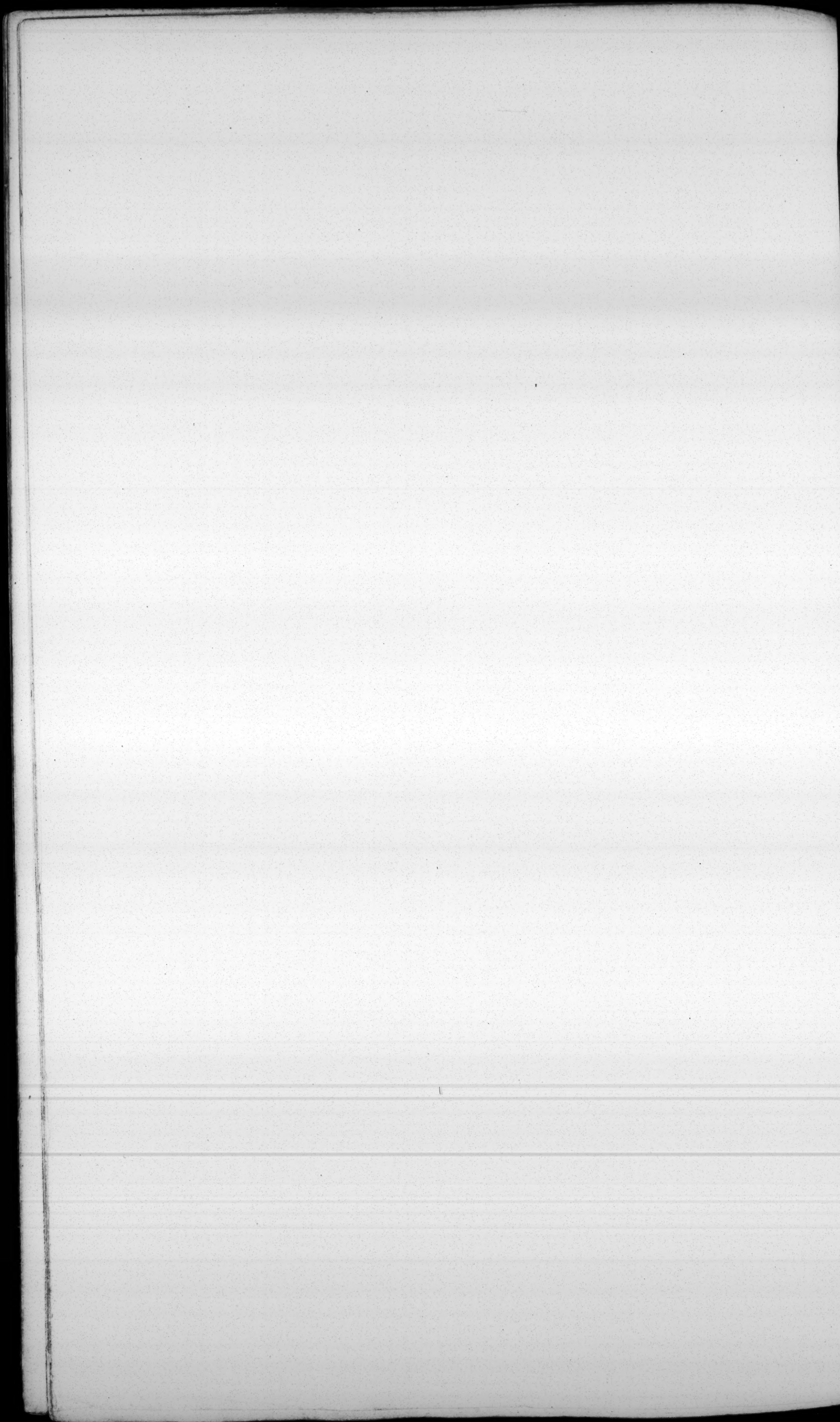
Experience must determine how far this Grass deserves the attention of the Farmer, thus much I may inform him, that it is one of the earliest Grasses in the Spring, that it produces a great crop, and when cut down after feeding, it has flower'd afresh in the autumn, these are certainly some of the necessary requisites in a good Grass, yet it does not often occur in meadows but is rather fond of growing on banks, in hedges and on the borders of fields, where it is very conspicuously in blossom in June and September, nevertheless I have occasionally seen it growing in Pastures; the only objection to it perhaps is its coarseness, which however should not prevent the Farmer from giving it a fair trial.

In particular situations the upper part of the root or rather base of the stalk becomes knobby, and it then forms the Gramen caninum nodosum of GERARD, this in some arable Land, I have been informed is very troublesome, and eradicated as Couch; instances often occur in which a valuable plant in one situation is a perfect weed in another.

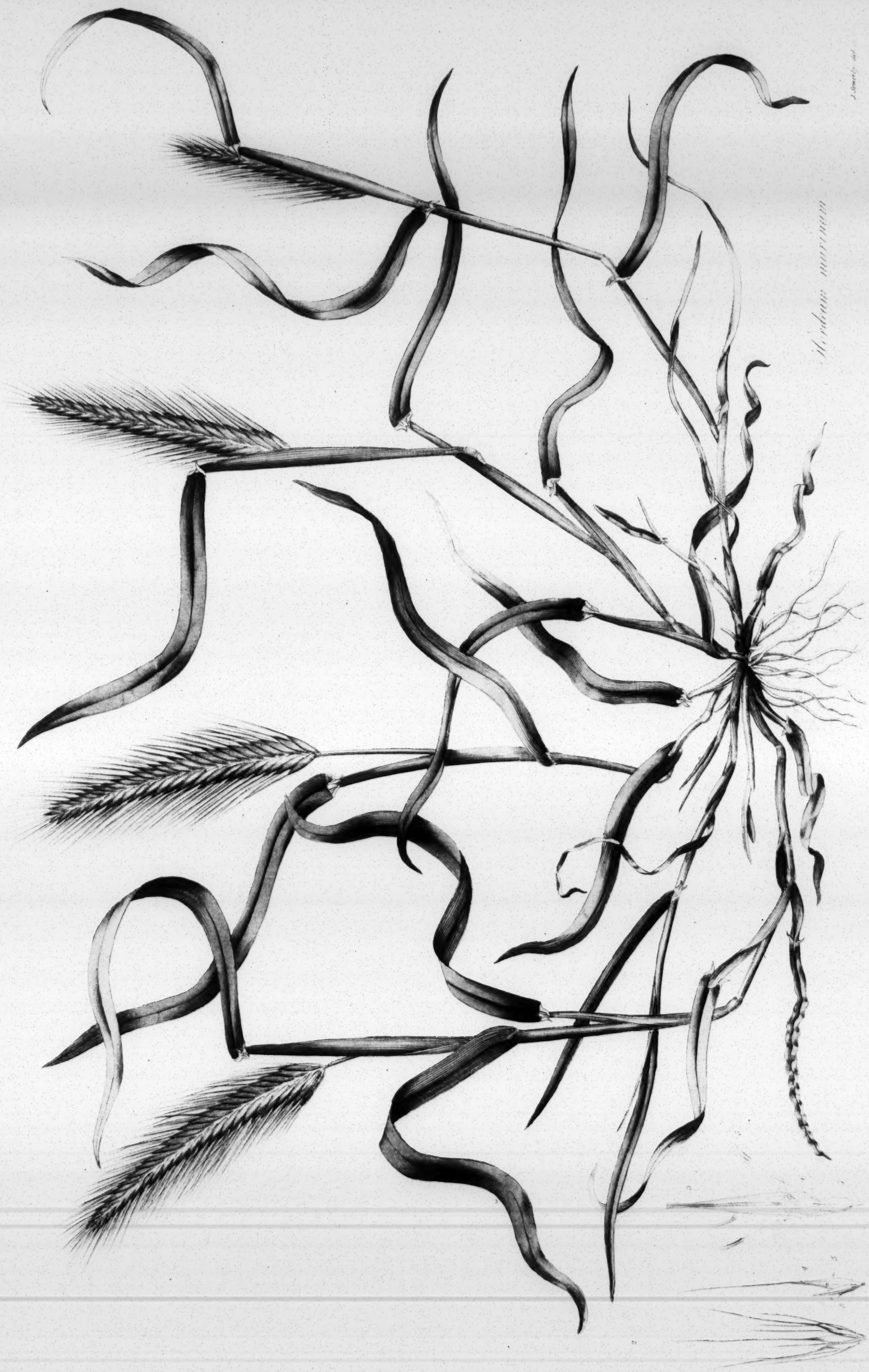
It is the most common of all our Oat-grasses and is therefore not liable to be mistaken for any other of the same genus.

As it varies with respect to its root, so does it also with regard to its arista, of which in general there is only one to each spicula, but sometimes each floscule contained in the spicula has an arista, in which case one is usually longer than the other.

In the grasses no character is more inconstant than that of the awn, arista, or beard, in some grasses whose character it is to be mutica it is present as in the Lolium perenne, Agrostis capillaris, and alba; and in others whose character it is to be aristata it is wanting, as in the Agrostis canina, the striking alteration in the appearance of the grass from this circumstance has often been the cause of multiplying species unnecessarily.







Paspalum murinum

J. Sm. del.

HORDEUM MURINUM. WALL BARLEY.

HORDEUM *Lin. Gen. Pl. TRIANDRIA DIGYNIA.*

Cal. lateralis, bivalvis, uniflorus, ternus.

Raii Syn. Gen. 27. HERBE GRAMINIFOLIE, FLORE IMPERFECTO CULMIFERÆ.

HORDEUM *murinum* flosculis lateralibus masculis aristatis, involucris intermediis ciliatis. *Lin. Syst. Vegetab. p. 108. Sp. Pl. p. 126. Fl. Suec. n. 113.*

HORDEUM spicis crassis, longe aristatis, calycinis glumis aristatis. *Haller Hist. n. 1536.*

HORDEUM *murinum. Scopoli Fl. Carn. n. 1241.*

GRAMEN hordeaceum minus et vulgare. *Baub. Pin. 8.*

HORDEUM spurium vulgare. *Parkinson 1147.*

GRAMEN fecalinum et fecale sylvestre. *Ger. emac 73. Raii Syn. p. 391. Wild Ric or Ric-Grass, Wall-Barley, Way-Bennet. Hudson. Fl. Angl. ed. 2 p. 56. Lightfoot Fl. Scot. p. 108.*

RADIX annua, fibrosa, albida vel subfusca.

CULMI plures, pedales et sesquipedales, suberecti, foliosi, basi procumbentes, infracti, geniculati, geniculis majusculis, pallidioribus.

FOLIA palmaria in quibusdam etiam sex uncias longa, duas vel tres lineas lata, subglauca, molli pubescentia, basi appendiculis duabus albis, acuminatis, amplexicaulibus, instructa; membrana brevissima, obtusa; vagina vix pubescens.

SPICÆ palmares, et ultra, parum nutantes, pallide virentes, compressæ, spicis hordei distichi haud absimiles.

CALYX: INVOLUCRUM hexaphyllum, triflorum, foliolis setaceis, acuminatis, aristis corollæ brevioribus, scabris, duobus intermediis basi latioribus, ciliatis, fig. 1.

FLOS intermedius hermaphroditus, laterales masculi, omnibus magnitudine et forma similibus, fig. 2.
Flos Hermaphrod.

COROLLA bivalvis, valvula exterior oblongo-ovata, acuminata, obsolete trinervis, lævis, desinens in aristam biunciam scabram, fig. 4. valvula interior lanceolata, plana, medio fulcata, apice emarginato-truncata, fig. 3. ad basin anteriorem hujus valvulæ exsertitur arista recta longitudine filamentorum, fig. 8.

NECTARIUM: GLUMULÆ duæ, acuminatæ ad basin germinis, fig. 7.

STAMINA: FILAMENTA tria, capillaria, glumis corollæ multo breviora. ANTHERÆ parvæ, flavo virentes, fig. 5.

PISTILLUM: GERMEN ovatum, pubescens. STYLI duo, reflexi, villosi, fig. 6.

ROOT annual, fibrous, whitish or of a brownish colour.

STALKS numerous, a foot or a foot and a half high, nearly upright, leafy, procumbent at the base, and crooked or broken, jointed, the joints rather large and paler than the stalk.

LEAVES a hand's-breadth or in some even six inches in length, and two or three lines broad, somewhat glaucous, and covered with a soft down, furnished at the base with two small, white, pointed appendages, which embrace the stalk; membrane very short and obtuse; sheath scarcely downy.

SPIKES a hand's-breadth or more in length, drooping a little, of a pale green colour, flat, and not unlike those of common barley.

CALYX: an INVOLUCRUM of six leaves, containing three flowers, the leaves running out to a long bristly point, shorter than the beards of the corolla, the two intermediate ones broader at the base than the others, and edged with hairs, fig. 1.

FLOWER in the middle hermaphrodite, the side ones males, all alike in size and shape, fig. 2.
Hermaphrodite Flower.

COROLLA of two valves, the outer valve oblong-ovate, with a long point, faintly three-ribbed, smooth, terminating in a beard or awn, which is rough to the touch, fig. 4. the inner valve lanceolate, flat, with a groove, truncated at top, and slightly emarginate, fig. 3. at the outer base of this valve arises a straight awn the length of the filaments, fig. 8.

NECTARY: two long-pointed, little GLUMES, at the base of the germen, fig. 7.

STAMINA: three capillary FILAMENTS, much shorter than the glumes of the corolla. ANTHERÆ small, of a yellowish green colour, fig. 5.

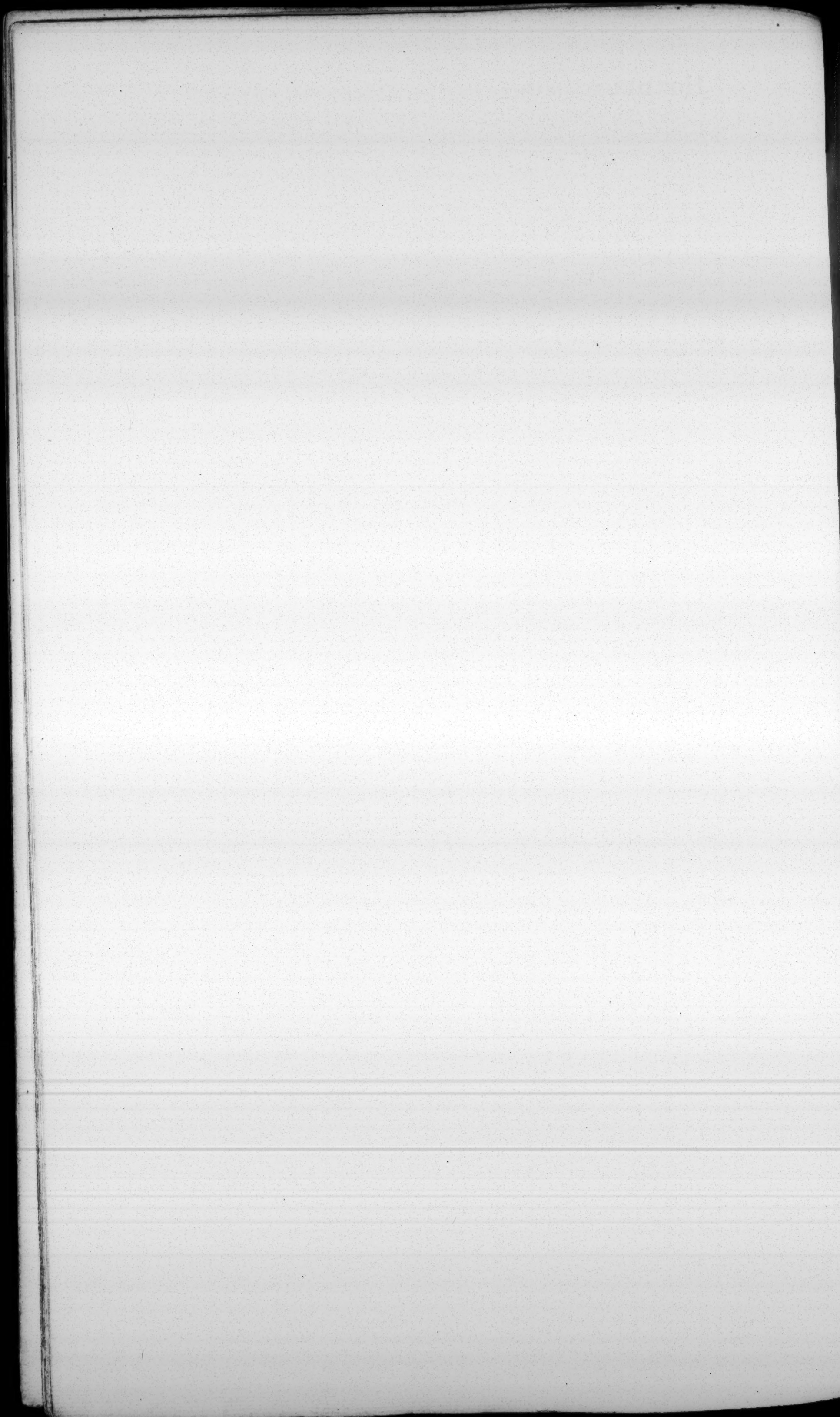
PISTILLUM: GERMEN ovate, downy. STYLES two, reflexed, and villous, fig. 6.

Some of the grasses are noxious to the husbandman in one way, and some in another. We have been informed, on the most respectable authority, that in the Isle of Thanet this grass is well known to the inn-keepers, who call it Squirrel-tail Grass; and find, that if horses feed on it for some time, the beards or awns of the spikes stick into their gums, and make them so sore, that they are in danger of being starved. The gentleman, who related to me this fact, informed me, that on the road he had a bill put into his hand, signifying, that at such an inn travellers might depend on having good hay for their cattle, without any mixture of Squirrel-tail Grass.

It is chiefly on the edges of paths, at the bottoms of walls, and on the borders of fields, that we find this noxious grass; and in such situations it is extremely common in the neighbourhood of London. Fortunately it is seldom or never found in the body of pastures and meadows, and consequently it rarely occurs in our hay.

It continues to flower and produce seed during the greatest part of the summer.

We are carefully to distinguish it from the *Hordeum pratense* of Mr. HUDSON, which LINNÆUS, contrary to the opinion of RAY, VAILLANT, HALLER, and other respectable Botanists, considers only as a variety of the present species.







Montia fontana.

MONTIA FONTANA.

BLINKS.

MONTIA *Lin. Gen. Pl.* TRIANDRIA TRIGYNIA.

Cal. 2 phyllus. *Cor.* 1 petala irregularis. *Caps.* 1 locularis, 3. valvis.

Raii. Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

MONTIA fontana *Lin. Syst. Veget.* p. 110. *Sp. pl.* 129. *Succiv.* n. 115.

MONTIA *Haller. Hist.* n. 301.

PORTULACA arvensis. *Baub. pin.* 282.

CAMERARIA arvensis minor. *Dill. Gifs.* 46.

PORTULACA exigua seu arvensis Camerarii J. B. III. 678.

PORTULACA tricoccus. *Pet. Herb. Brit.* 10. 12.

ALSINE flosculis conniventibus. *Merr. pin.*

ALSINEFORMIS paludosa tricarpos flosculis, albis inapertis. *Pluk. Alm.* 21. T. 7. f. 5.

ALSINE parva palustris tricoccus, Portulacæ aquaticæ similis. *Raii. Syn.* p. 352. small water Chick-weed or Purslane by some called Blinks.

Oeder. Fl. Dan. t. 113.

Hudson. Fl. Angl. ed. 2. p. 60.

Lightfoot. Fl. Scot. p. 110.

RADIX annua, fibrosa.

CAULES plurimi, teretes, glabri, rubentes, in terram reclinati et subinde radices agentes, duorum, triumve digitorum longitudine, ramosi et crebris geniculis intercepti.

FOLIA opposita, sessilia, oblonga, acutiuscula, prope basin angustata, subcarnosa, glabra, pallide virentia.

PEDUNCULI plerumque terni, uniflori, axillares, peractâ florentiâ recurvati, postea erecti, foliis longiores, e squama membranacea prodeuntes.

CALYX: PERIANTHIUM diphyllum; foliolis ovatis, concavis, obtusis, erectis, persistentibus. *fig.* 1. 9.

COROLLA monopetala, quinquepartita, alba, laciniis tribus, alternis, minoribus, staminiferis. *fig.* 2. 3. 4.

STAMINA: FILAMENTA tria, capillaria, corollâ breviora, cui inserta: ANTHERÆ parvæ, albæ. *fig.* 4.

PISTILLUM: GERMEN turbinatum, subtriangulare; STYLI tres, villosi, patentes; STIGMATA simplicia. *fig.* 5.

PERICARPIUM: CALYX permanens, auctus, truncatus, continet CAPSULAM, turbinatam, unilocularem, trivalvem, valvulis ovatis, acutis, monospermis, demisso femine filiformibus, calyce paulo longioribus. *fig.* 6. 7. 8. 10.

SEMINA nigra, subreniformia. *fig.* 11.

ROOT annual, and fibrous.

STALKS numerous, round, smooth, reddish, spreading on the ground, and sometimes striking root, two or three inches in length, branched and jointed.

LEAVES opposite, sessile, oblong, somewhat pointed, narrowed near the base, rather fleshy, smooth and of a pale green colour.

FLOWER-STALKS generally growing three together, each supporting one flower, proceeding from a little scale in the bosom of the leaves, as soon as the flowering is over hanging down, afterwards becoming upright and longer than the leaves.

CALYX: a PERIANTHIUM of two leaves: the leaves oval, concave, obtuse, upright, and permanent, *fig.* 1. 9.

COROLLA of one petal, deeply divided into five segments, of a white colour, the three alternate ones least, having the stamina attached to them. *fig.* 2. 3. 4.

STAMINA: three slender FILAMENTS shorter than the corolla to which they are connected: ANTHERÆ small and white *fig.* 4.

PISTILLUM: GERMEN large at top, small at bottom, and somewhat triangular; STYLES three, villous, spreading; STIGMATA simple. *fig.* 5.

SEED-VESSEL: the permanent and encreasing CALYX, cut off as it were at top contains a CAPSULE of the same shape as the germen, of one cavity and three valves, the valves ovate, and pointed, each containing one seed on the falling of which they become thread shaped and a little longer than the calyx. *fig.* 6. 7. 8. 10.

SEEDS black and somewhat kidney-shaped. *fig.* 11.

THIS plant of which there is but one species appears first to have had a generic character bestowed on it by DILLENIUS, who called it *Cameraria* in honour of CAMERARIUS a German Physician and Botanist; MICHELI afterwards figured it among his *Nova Genera* and gave it the name of *Montia* in commemoration of his countryman MONTI an Italian Botanist, which name has been adopted by LINNÆUS.

Its parts of fructification which are represented in a magnified state, on the Plate, and of which a particular description is given are singular enough to justify these Authors in making it a distinct Genus.

The English name of *Blinks* has perhaps been given to this plant from the blossoms usually appearing in a half opened state, but when the Sun shines on them they are fully expanded.

It grows in wet places, especially on the moist gravelly parts of Heaths, where the water stagnates in the winter, on *Black-Heath*, *Hampstead-Heath*, and in other similar situations it is very common, flowering in May and ripening its seed in the beginning of June.

It is easy of Cultivation but not remarked for its utility in any respect; the seed may probably be the food of small Birds.





Lapsacus sylvestris.

DIPSACUS SYLVESTRIS.

WILD TEASEL.

DIPSACUS Lin. Gen. Pl. TETRANDRIA MONOGYNIA

Calyx communis, polyphyllus; proprius superus. Recept. paleaceum.

Raii. Syn. Gen. 8. HERBÆ CORYMBIFERIS AFFINES.

DIPSACUS capitulis ovatis, foliis arcuatis circumvallatis, aristis squamarum rectis. *Haller hist. n. 198.*

DIPSACUS sylvestris seu Labrum Veneris. *I. B. III. 74.*

DIPSACUS sylvestris aut Virga pastoris major. *C. B. pin. 385.*

DIPSACUS sylvestris. *Ger. emac. 1167. Parkins. 984.*

Hudson. Fl. Angl. ed. 2. p. 6.

Lightfoot Fl. Scot. p. 113.

Jacquin Fl. Austr. t. 402.

RADIX biennis, simplex, fibris majusculis donatus.

CAULIS tripedalis ad orgyalem, ramosus, teres, striatus, inanis, inferius spinis rarius dispositis, prope capitula creberrimis horridus.

FOLIA *radicalia* primi anni supra terram in orbem sparsa, ovato-oblonga, obtusiuscula, crenato-ferrata, rugosa, spinulis rarioribus aspera, *caulina* saltem inferiora minus rugosa, basi adeo connata ut sinum magnum efficiant, post pluvias aquâ plenum, ovato-acuta, crenata, spinis ad marginem et nervum medium rarius oblitum, *summa* minus connata, magisque lanceolata, integerrima et fere inermia.

CAPITULA plurima, solitaria, erecta, ovato-oblonga, subacuminata.

FLORES purpurei, circa medium capituli primo erumpentes.

INVOLUCRUM polyphyllum, foliolis sublinearibus, rigidis, spinulosis, sursum arcuatis, longitudine capituli, inæqualibus.

CALYX: PERIANTHIUM proprium, minimum, viride, ciliatum. *fig. 1.*

COROLLA monopetala, tubulosa; *Tube* infundibuliformis, basi attenuatus, albidus, ad lentem villosulus; LIMBUS quadrifidus, erectus, purpureus, laciniis obtusis, extimâ majori. *fig. 2.*

STAMINA: FILAMENTA quatuor, albida, capillaria, recta, tubo corollæ inserta; ANTHERÆ incumbentes, oblongæ, violaceæ. *fig. 3.*

PISTILLUM: GERMEN inferum, tetragonum, albidum, sulcatum, margine superne viridi; STYLUS filiformis albus, corollâ paulo brevior; STIGMA canaliculatum, subinflexum *fig. 4. 5. 6.*

RECEPTACULUM paleaceum, paleis longitudine staminum, rigidis, aristatis, supremis longioribus, basi concavis, subtriangularibus; *Arista* acuminata, recta, hispidula. *fig. 8.*

ROOT biennial, simple, furnished with large fibres.

STALK from three to six feet high, branched, round, striated, hollow, spinous, spines near the base but few, near the heads very numerous, long and sharp.

LEAVES: *radical* leaves of the first years plant spread on the ground in a circular form, are of an oblong oval shape, bluntish at the point, notched on the edges, wrinkled, and rough with spines thinly scatter'd over the leaf, those of the *stalk* at least the lowermost ones, are less wrinkled, and united at the base in such a manner as to form a large cavity, which contains water after rain, of an oval pointed shape, notched, and thinly beset with spines on the edge and mid-rib, the *uppermost* leaves slightly united at the base, narrower, entire, and almost free from spines.

HEADS numerous, growing singly on footstalks, upright, of an oblong egg shape, somewhat pointed at top.

FLOWERS purple, first breaking forth about the middle of the head.

INVOLUCRUM composed of many leaves which are somewhat linear, rigid, beset with small spines, bending upwards, the length of the heads, unequal.

CALYX: the PERIANTHIUM of each floscule is very minute, green and edged with hairs. *fig. 1.*

COROLLA monopetalous, tubular; the *Tube* funnel-shaped, narrowed at the base, whitish and slightly villous if magnified; the *Limb* divided into four segments, upright, purple, the segments obtuse, the outermost largest. *fig. 2.*

STAMINA: four FILAMENTS, of a whitish colour, very fine, straight, inserted into the tube of the corolla; ANTHERÆ incumbent, oblong, of a violet colour. *fig. 3.*

PISTILLUM: GERMEN placed below the calyx, four corner'd, whitish, grooved, the edge on the upper part green; STYLE thread-shaped, white, a little shorter than the corolla, STIGMA channeled and bent a little in. *fig. 4. 5. 6.*

RECEPTACLE chaffy chaff the length of the Stamina, rigid, bearded, the uppermost longest, at bottom hollow, and somewhat triangular; the *Beard* or awn running out to a long, straight, and somewhat hispid point. *fig. 8.*

THE antient Botanists always considered the wild and the manured Teasel as two distinct species, and 'till the time of *Linnaeus* but one opinion prevailed on the subject, that great Botanist too hastily concluded that the *Dipsacus fullonum* was only a variety of the *sylvestris*, some few have implicitly followed that opinion, but *Haller* and *Jacquin* distinguished by their nice discernment and accurate descriptions unite in considering the *sylvestris* as a species totally distinct from the *fullonum*: in the manured Teasel the leaves of the Involucrum are short and horizontally extended, in the wild one they are long and encircle the head, the Paleæ in the former are always hooked at the extremity, in the latter never, tho' cultivated, many other distinctions will be pointed out when we give the history and manner of cultivating the manured Teasel.

This species grows very commonly on the edges of pastures, in uncultivated places, by road sides, and flowers from July to September.

The water collected in the basin form'd by the union of the leaves towards the bottom of the stalk is said to cure warts on the hands if several times washed with it, and hence *RAY* conjectures this plant might have received its name of *Labrum Veneris*.

Cattle in general even the As appear to avoid it; as is shewn by the dried stems and heads which remain all the winter, but there is a small Moth about twice the size of the *Euxonymella*, speckled with black, which finds its way into this formidable plant, and makes a comfortable and secure domicilium of its spinous head. vid. *Mouset Theat. Insect. p. 256. Raii catal. plant. circa Cant. p. 45.*







Lysimachia pilosus.

DIPSACUS PILOSUS. SMALL WILD TEASEL OR SHEPHERD'S R O D.

DIPSACUS *Linnaei Gen. Pl.* TETRANDRIA MONOGYNIA.

Calyx communis polyphyllus; proprius superus. Receptaculum paleaceum.

Raii Syn. p. 191. HERBÆ CORYMBIFERIS AFFINES.

DIPSACUS *pilosus* foliis petiolatis appendiculatis. *Linn. Syst. Vegetab. p. 120. Spec. Plant. 141.*

DIPSACUS foliis biauribus, capitulis hemisphæricis. *Haller. hist. helv. No. 199.*

DIPSACUS sylvestris capitulo minore vel virga pastoris minor. *Baubin Pin. p. 385.*

DIPSACUS minor seu Virga pastoris. *Ger. emac. 1168.*

VIRGA PASTORIS. *Parkinson 984. Raii Synop. p. 192. Hudson. Fl. Angl. p. 49.*

RADIX biennis.

CAULIS orgyalis, erectus, ramosissimus, pene teres, aculeatus, fulcatus.

RAMI oppositi, patentes, cauli similes.

FOLIA ad basin CAULIS, connata, ovato-lanceolata, ferrata, nervo medio subtus aculeato, indivisa, suprema appendiculata; RAMORUM; ima appendiculata, ferrata, suprema margine integerrima, lanceolata.

PEDUNCULI erecti, longi, ex dichotomiâ caulis, fulcati, aculeati, apice spinosissimi, uniflori.

FLORES albi, in capitulum hemisphæricum collecti, dum florent nutantes, postea capitula eriguntur.

CALYX: PERIANTHIUM commune multiflorum, hexaphyllum, foliolis longitudine florum, patentibus, lanceolatis, mucronatis, fig. 1: PERIANTHIUM proprium parvum, superum, concavum, ciliatum, fig. 5. lente auctum.

COROLLA propria monopetala, tubulosa, limbo quadridido, laciniâ inferiore longiore, fig. 3.

STAMINA: FILAMENTA quatuor Corollâ longiora; ANTHERÆ purpureæ, fig. 3.

PISTILLUM: GERMEN inferum, tetragonum; STYLUS filiformis, longitudine Corollæ; STIGMA simplex, fig. 6.

PERICARPIUM nullum.

SEMINA fusca, subtetragona, fig. 4.

RECEPTACULUM commune hemisphæricum, paleaceum, pars inferior palearum concava, alba, carinata, superior lanceolata, acuminata, spinulis obsita, fig. 2.

ROOT biennial.

STALK about six feet high, upright, very much branched, nearly round, prickly and grooved.

BRANCHES opposite, spreading, like the stalk.

LEAVES at the bottom of the STALK connate, ovato-lanceolate, ferrated, the midrib prickly underneath, undivided, those at the top dividing at the base into two smaller leaves; the leaves on the branches at bottom similar to those last described, at top lanceolate, with the edges entire.

FOOT-STALKS of the flowers, upright, long, proceeding from the middle where the stalks separate, grooved, prickly, at top very full of slender spines, supporting one flower.

FLOWERS whitish, collected together in a small hemispherical head, which, while the plant is in flower, droops, and afterwards becomes upright.

CALYX: the common PERIANTHIUM supporting many flowers, composed of six leaves, the length of the flowers, spreading, lanceolate and pointed, fig. 1. The PERIANTHIUM of each floscule small, placed above the Germen, hollow, and ciliated, fig. 5, magnified.

COROLLA: each floscule monopetalous, tubular, the limb quadrid, the lowermost segment longest, fig. 3.

STAMINA: four FILAMENTS, longer than the Corolla; ANTHERÆ purple, fig. 3.

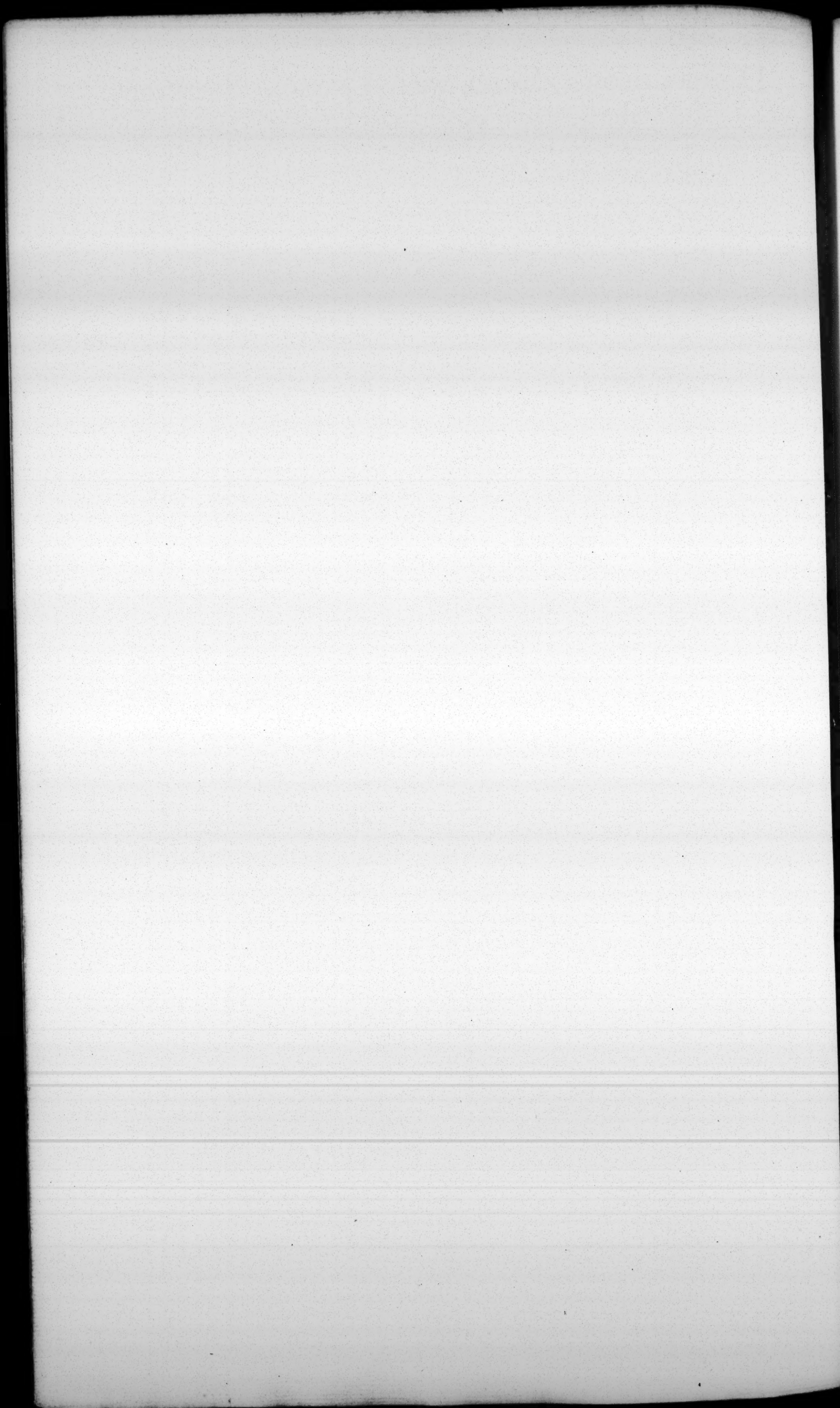
PISTILLUM: GERMEN placed below the Calyx, quadrangular; the STYLE filiform, the length of Corolla; the STIGMA simple, fig. 6.

SEED-VESSEL wanting.

SEEDS brown, nearly quadrangular.

RECEPTACLE common to all the flowers paleaceous; the lower part of the paleæ hollow, white, and angular behind; the upper part lanceolate, tapering to a point, and beset with little spines or hairs, fig. 2.

THIS species of *Teasel* may be considered as one of our Plantæ rariores; hitherto I have found it only in one place near town, viz. on the right hand side of the Turnpike-road leading from *Deptford* to *Lewisham*, not far from the latter: as it grows to a considerable height, it is conspicuous at a distance: the flowers appear in July, and the seed is ripe in September: it continues to blow for a considerable time, and did not the plant take up so much room, there is beauty enough in its flowers to recommend it for the Garden. Moths seem very fond of its blossoms, being found on them in great numbers after sun-set.







Scabrosa Succisa.

Scabiosa succisa.

Devils-bit, or Meadow Scabious.

SCABIOSA Lin. Gen. Pl. TETRANDRIA MONOGYNIA

Cal. communis polyphyllus; proprius duplex superus. Recept. paleaceum f. nudum.

Rail. Syn. Gen. S. HERBE CORYMBIFERIS AFFINES.

SCABIOSA Succisa corollulis quadrifidis æqualibus, foliis caulinis dentatis, floribus subglobosis.

SCABIOSA succisa corollulis quadrifidis æqualibus, caule simplici, ramis approximatis, foliis lanceolato-ovatis integerrimis. Lin. Syst. Vegetab. p. 142.

SCABIOSA caule trifloro, floribus convexis, foliis radicalibus ovatis, caulinis lanceolatis. Haller. Hist. 201.

SCABIOSA succisa Scopoli Fl. Carniol. p. 95. n. 138.

SUCCISA glabra et hirsuta B. pin. 269.

MORSUS DIABOLI Ger. em. 726.

MORSUS DIABOLI vulgaris flore purpureo Parkins. 491.

SCABIOSA radice succisa, flore globofo. Rail. Syn. 191. Devil's-bit.

Hudson. Fl. Angl. ed. 2. p. 63.

Lightfoot. Fl. Scot. p. 114.

RADIX adulta crassitie fere digiti minimi, sæpe obliqua, præmorsa, fibris longis albidis prædita.

CAULIS pedalis, ad sesquipedalem, suberectus, nobiscum raro simplex, at in duos, tres, vel plures ramos divisus, teres, hirsutus, rubescens.

FOLIA radicalia ovalia, petiolis brevibus insidentia, saturate viridia, in petiolum breviter decurrentia, integerrima, pilis longis utrinque hirsuta, caulina opposita, connata, lanceolata, rariter dentata, suprema sublinearia, integerrima.

CAPITULI Florum subglobosi, cærulei, solitarii, pedunculis longis nudis seu parum foliosis insidentibus.

CALYX: PERIANTHIUM commune multiflorum, patens, polyphyllum; foliolis ovato-acutis, ciliatis, basi subgibbosis, seriebus variis receptaculum cingentibus, eique insidentibus, quorum interiora gradatim minora; fig. 1. 11. Perianthium proprium duplex, inferius tetragonum, pilosum, germen includens; fig. 2. superius germini insidens, quinquepartitum, laciniis setaceis, fig. 3.

COROLLA monopetala, tubulosa, quadrifida, laciniis obtusis, tribus inferioribus subæqualibus, superiore longiore. fig. 4.

STAMINA: FILAMENTA quatuor, subulata, corollæ fere duplo longiora; ANTHERÆ oblongæ, incumbentes, violaceæ; POLLEN album. fig. 5.

PISTILLUM: GERMEN minimum, albidum, cylindraceo-ovatum; STYLUS filiformis, dum antheræ pollinem dimittunt longitudine labii inferioris corollæ; STIGMA orbiculatum, medio depressum. fig. 6. 7. 8.

SEMEN oblongum, sulcato-angulosum, hirsutum, setis quinque coronatum. fig. 10.

ROOT when full grown, nearly the thickness of the little finger, often growing obliquely, bit off as it were or stumped at the extremity, and furnished with long whitish fibres.

STALKS from a foot to a foot and a half high, nearly upright, with us rarely single but divided into two, three or more branches, round, beset with rough hairs and of a reddish colour.

LEAVES next the root, oval, standing on short footstalks, of a deep green colour, running a little way down the footstalk, entire at the edge, cover'd on both sides with long, rough hairs; those on the stalk opposite, connate, lanceolate, sparingly toothed on the edge, the uppermost nearly linear and entire.

HEADS of the flowers nearly round, blue, single, sitting on long, naked or almost naked flower stalks.

CALYX: the general PERIANTHIUM supports many florets, is spreading and composed of many leaves, which are of an oval pointed shape, edged with hairs, somewhat gibbous at the base, surrounding and sitting on the receptacle in various rows, of which the innermost are gradually the smallest fig. 1. 11. Perianthium of each floret double, the lower one four corner'd, hairy, inclosing the germen, fig. 2, the upper one sitting on the germen, divided deeply into five segments shaped like bristles. fig. 3.

COROLLA monopetalous, tubular, divided into four obtuse segments, the three lowermost of which are nearly equal, the uppermost somewhat longest. fig. 4.

STAMINA: four FILAMENTS, tapering to a point, almost twice the length of the corolla; ANTHERÆ oblong, incumbent, of a violet colour; POLLEN white. fig. 5.

PISTILLUM: GERMEN very small, whitish, rarely cylindrical, inclosed within the calyx; STYLE thread shaped, while the Antheræ are shedding the pollen, the length of the lower lip of the corolla; STIGMA round, flat, with a depression in the middle. fig. 6. 7. 8.

SEED oblong, angular, grooved, beset with rough hairs and crown'd with five setæ or bristles. fig. 10.

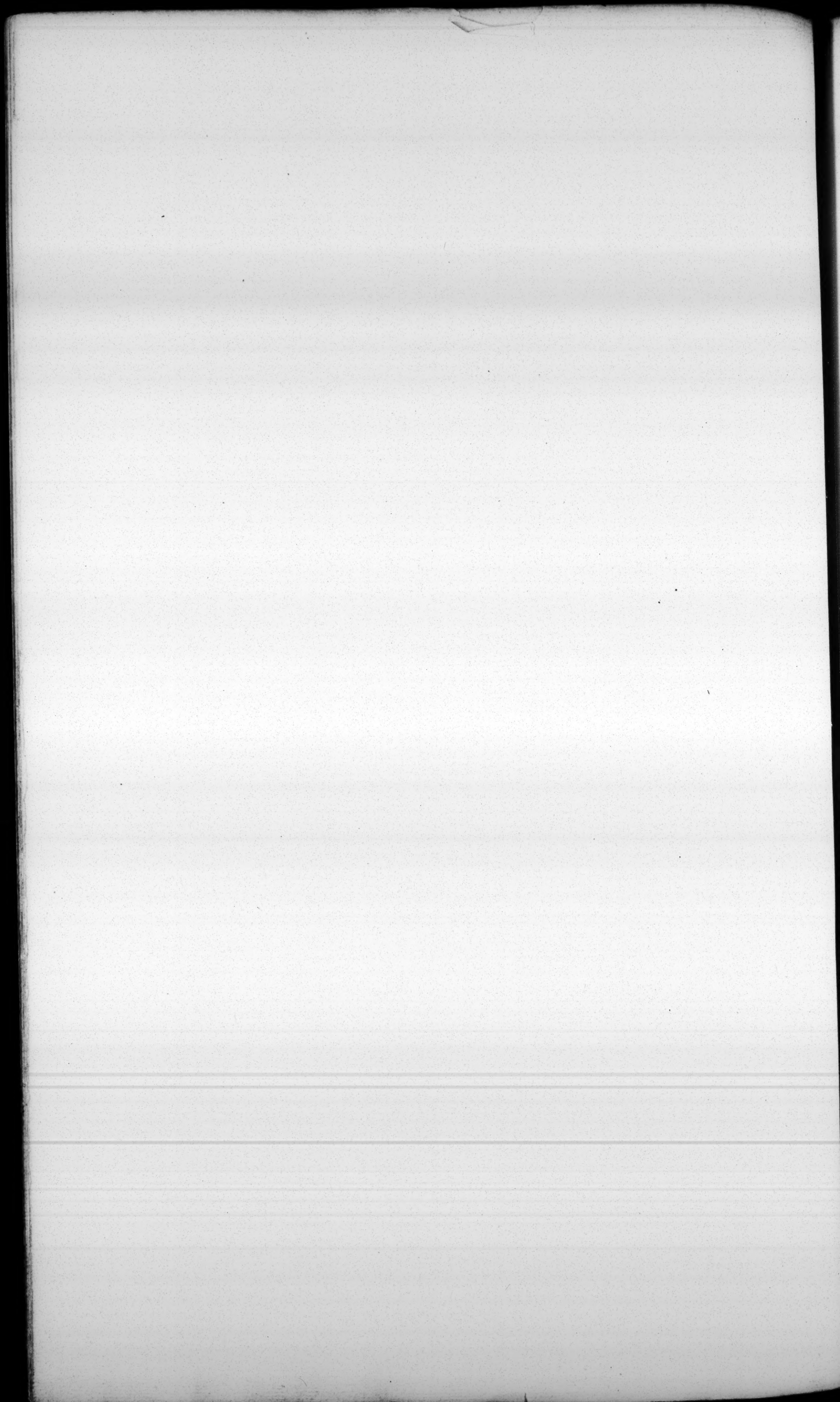
THE Devils bit is one of those few plants which adorn our Pastures in Autumn, and is capable of adding some beauty even to the flower Garden, in which it grows much more branched than in its wild state and continues in blossom from August to the end of October; like Plantain and many other herbs, the root when full grown is stumped at the extremity.

" Fabulous antiquity (the Monkes and Fryers as I suppose being the first inventors of the Fable) said, that the " Devill envying the good that this Herbe might do to mankinde, bit away part of the root and thereof came the " name of Succisa or Devils bit. Parkinson Theat. p. 491.

Modern practitioners not finding those wonderfull good effects have rejected it.

According to BERGIUS the root possesses an astringent quality, and the infusion of it is bitterish, but not unpleasant to the taste.

The Caterpillar of one of the Fritillary Butterflies (Papilio maturna of LINNÆUS, the greasy Fritillary of the Aurelians) feed on the leaves of this species.







Scabiosa arvensis.

SCABIOSA ARVENSIS. FIELD SCABIOUS.

SCABIOSA *Lin. Gen. Pl.* TETRANDRIA MONOGYNIA.

Cal. communis polyphyllus; *proprius* duplex, superus. *Recept.* paleaceum sive nudum.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE, SEMINIBUS PAPPO DESTITUTIS, CORYMBIFERÆ DICTÆ.

SCABIOSA *arvensis* corollulis quadrifidis radiantibus, foliis pinnatifidis incis, caule hispido. *Lin. Syst. Vegetab.* p. 121. *Sp. Plant.* p. 143. *Fl. Suecic.* n. 117.

SCABIOSA foliis petiolatis, ovato-lanceolatis, dentatis, superioribus fernipinnatis. *Haller. Hist.* 206.

SCABIOSA *arvensis*. *Scopoli Fl. Carn.* n. 135.

SCABIOSA *pratensis* hirsuta quæ officinarum. *Baub. pin.* 269.

SCABIOSA *major* vulgaris. *Ger. emac.* 719.

SCABIOSA *vulgaris* *pratensis*. *Parkins.* 484. *Raii Syn.* p. 191. Common Field Scabious. *Hudson. Fl. Angl. ed. II.* p. 62. *Lightfoot Fl. Scot.* p. 114. *Oeder Fl. Dan.* t. 447.

RADIX perennis, ramosa, subignosa, difficulter evulsa.

ROOT perennial, branched, somewhat woody, with difficulty pulled up.

CAULIS pedalis vel ultra, teres, simplex feu ramosus, scaber, superne nudus, pubescens, inferne nigro punctatus, hispidus: pilis albidis.

STALK a foot or more in height, round, simple or branched, rough, above naked of leaves, and downy below, dotted with black and hispid: the hairs whitish.

FOLIA opposita, hispida, acuta, inferiora integra, ovali-oblonga, remote ferrata; superiora sessilia, amplexicaulia, pinnatifida: laciniis linearibus, oppositis, subserratis; intermedia duplo majore, lanceolata, utrinque attenuata, in medio ferrata.

LEAVES opposite, hispid, pointed; the lower ones entire, of an oval oblong shape, remotely serrated; the upper ones sessile, embracing the stalk, and pinnatifid; the segments linear, opposite, slightly serrated, the middle segment twice the size of the others, lanceolate, tapering at each extremity, and serrated in the middle.

FLORES terminales, longius pedunculati, solitarii.

FLOWERS terminal, standing on long foot-stalks.

CALYX *communis* polyphyllus, imbricatus, foliolis ovatis, acutis, pubescentibus, ciliatis, plano-patentibus; interioribus paulo minoribus.

CALYX *common to all the florets* composed of many leaves, imbricated, the leaves ovate, pointed, downy, edged with hairs, flat and spreading; the innermost somewhat the smallest.

COROLLA composita hemisphærica, dilute violacea, radiata; *propria radii* tubulata, longitudine calycis, intus villosa, quadrifida; laciniis erectis, oblongis, obtusis, inæqualibus; exteriore paullo majore; duabus lateralibus, oppositis, æqualibus; intima duplo minore, *fig. 1.*; *disci* minor, ore quadrifido, obtuso, inæquali.

COROLLA compound, hemispherical, of a pale violet colour, radiate; the florets in the *circumference* tubular, the length of the calyx, villous within, divided into four segments which are upright, oblong, obtuse and unequal; the outermost somewhat the largest; the two side ones opposite, and equal; the innermost twice as small, *fig. 1.*; the *central florets* smaller, the mouth divided into four, obtuse, unequal segments.

STAMINA: FILAMENTA quatuor, setacea, tubo corollæ inferne adnata, longitudine corollæ; ANTHERÆ exstantes, lineares, incumbentes, corollæ concolores. *fig. 2.*

STAMINA: FILAMENTS four, tapering, growing to the lower part of the tube of the corolla, and of the same length as the corolla. ANTHERÆ projecting, linear, incumbent, of the same colour as the corolla. *fig. 2.*

PISTILLUM: GERMEN inferum, tetragonum, villosu-hispidum, coronatum *pappo* campanulato, villosu-setaceo, cinereo. STYLUS cylindricus, superne incrassatus, corolla longior, erectus. STIGMA exsertum, clavatum, emarginatum. *fig. 3.*

PISTILLUM: GERMEN below the corolla, four-cornered, covered with numerous stiffish hairs and crowned with a bell-shaped *pappus* formed of numerous ash-coloured bristles. STYLE cylindrical, thickened above, longer than the corolla, upright. STIGMA projecting, club-shaped, with a notch. *fig. 3.*

RECEPTACULUM barbatum, pilis germinibus brevioribus.

RECEPTACLE bearded, the hairs shorter than the germina.

SEMEN villosum, subtetragonum, pappo villosu-setaceo coronatum. *fig. 4.*

SEED villous, somewhat four-cornered, crowned with a bristly villous down or pappus. *fig. 4.*

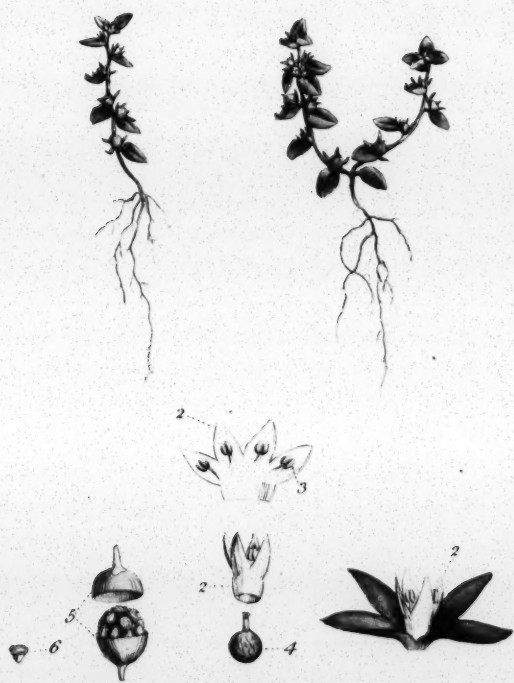
The *Scabiosa arvensis* is a very common plant, both in Corn-fields and Meadows. In the former it is undoubtedly a troublesome weed; in the latter it frequently forms a great part of the pasturage, and being a hardy plant, producing a large quantity of foliage, which is not refused, according to LINNÆUS's experiments by *Kine, Horses, or Sheep*, it may perhaps be considered rather as useful.

Dr. RUTTY, in his *Materia Medica*, remarks, that the leaves have sometimes been described as inodorous and insipid; but, on a more accurate examination, they are found to be bitterish, with some degree of acrimony and astringency. Medicinally this species, as well as the *succisa*, has been recommended internally in Coughs, Asthmas, malignant Fevers, Lues venerea, Epilepsy, &c.; and externally in the Scurvy, Itch, Scabies, Tetters, &c.; and may be used in substance, infusion, decoction, or any manner of way; but, as Dr. LEWIS observes, the present practice has little dependance on it.

It flowers in July and August, varies much in the divisions of its leaves, and is sometimes found with white flowers. The blossoms, and indeed the whole plant is much larger than the *Scabiosa succisa*; its leaves are more jagged. It flowers much earlier, and it affects a drier situation.

LIBRARY





Centunculus minimus.

CENTUNCULUS MINIMUS. BASTARD PIMPERNEL.

CENTUNCULUS *Lin. Gen. Pl.* TETRANDRIA MONOGYNIA.

Cal. 4 fidus. *Cor.* 4. fida, patens. *Stam.* brevia. *Caps.* 1 locularis, circumscissa.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

CENTUNCULUS *minimus. Linnæi Syst. Vegetab.* p. 133. *Spec. Plantar.* p. 169. *Flor. Suec.* p. 136.

CENTUNCULUS, *Haller. Hist.*

CENTUNCULUS, *Dillen. Catal. Gifs.* p. 161 et *App. p.* 111. *Tab.* 5.

ALSINE palustris minima, flosculis albis, fructu Coriandri exiguo. *Mentz. Pug. Icon.*

ANAGALLIS palustris. *Vaillant.* p. 12. t. 4. f. 2.

ANAGALLIDIASTRUM exiguum foliis lanceolatis alternis, flore albo fugaci et vix conspicuo. *Micheli nov. gener.* p. 14. t. 18. *Hudson. Fl. Angl. ed.* 2. p. 63.

RADIX annua, simplex, fibrosa.

CAULIS unguicularis ad pollicarem aut ultra, simplex seu ad basin ramosus, suberectus, teres, glaber.

FOLIA alterna, sessilia, ovata, acuta, integerrima, glabra, subcarnosa, patentia.

FLORES minimi, solitarii, axillares, sessiles.

CALYX: PERIANTHIUM quadripartitum, patens, persistens, laciniis ovato-lanceolatis, margine fuscis, corolla longioribus. *fig.* 1.

COROLLA monopetala, purpurascens, subrotata; TUBUS globosus; LIMBUS quadripartitus, erectus, laciniis ovato-acutis; demum clausis, et calyptræ instar capsulæ insidentibus. *fig.* 2.

STAMINA: FILAMENTA quatuor, corollæ breviora; ANTHERÆ minimæ, flavæ. *fig.* 3.

PISTILLUM: GERMEN subrotundum, intra tubum corollæ; STYLUS filiformis, longitudine germinis et corollæ, erectus, persistens; STIGMA simplex. *fig.* 4.

PERICARPIUM: CAPSULA globosa, unilocularis, circumscissa. *fig.* 5.

SEMINA plurima, minima, subconica. *fig.* 6.

ROOT annual, simple and fibrous.

STALK from half an inch to an inch in height or more, simple or branched at bottom, somewhat upright, round, and smooth.

LEAVES alternate, sessile, ovate, pointed, entire at the edge, smooth, somewhat fleshy and spreading.

FLOWERS very minute, single, in the axæ of the leaves, without footstalks.

CALYX a PERIANTHIUM divided deeply into four segments, spreading, and permanent; the segments ovato-lanceolate, brown on the edge, and longer than the corolla. *fig.* 1.

COROLLA purplish, monopetalous, somewhat wheel-shaped; TUBE globular; LIMB divided into four segments, which are upright, and of a pointed oval shape, finally closed and fitting like a calyptra on the top of the capsule. *fig.* 2.

STAMINA: four FILAMENTS shorter than the corolla; ANTHERÆ very minute and yellow. *fig.* 3.

PISTILLUM: GERMEN roundish, within the tube of the corolla; STYLE filiform, the length of the germen and corolla, upright and permanent; STIGMA simple. *fig.* 4.

SEED-VESSEL: a CAPSULE of a globular shape, of one cavity, dividing horizontally in the middle. *fig.* 5.

SEEDS numerous, very small and somewhat conical. *fig.* 6.

The English Botanist is here presented with a plant remarkable for the minuteness of all its parts, but more especially of its blossoms, which are not expanded so as to shew the interior structure of the flower, unless the sun shines strongly on them, then we discern its yellow stamina; DILLENIVS, who first gave to this plant the name of *Centunculus* and made a new genus of it, remarks a circumstance deserving notice, which is that the Corolla, which in most of the *rotaceæ* (wheel-shaped flowers) drops after blossoming, here continues, and covers the top of the capsule.

From the small number of places in which this plant has been described to grow, we have been led to consider it as a much scarcer plant than it really is.

The first time of my discovering the *Centunculus minimus* was this summer, when herbarizing in company with Mr. DYER; I found it on *Ashford Common* near his country seat, it there grew in tolerable plenty, in moist depressed situations, usually overflowed in the winter along with the *Littorella lacustris*, passing from *Ashford* to *Hounslow Heath*, I there found it in similar situations in greater plenty, *Spergula nodosa* in bloom, *Veronica Serpyllifolia* and *Sagina procumbens* growing in abundance near it; this was about the middle of July, when the plant had both flowers and capsules on it, and August the 21st plants from the same place removed into my garden and placed in a pot in a shady situation, were in great perfection, so that the *Centunculus* is not so fugacious a plant as many.

It generally grows about the size figured in the plate, but may, according to circumstances, be found much larger, as well as much smaller.

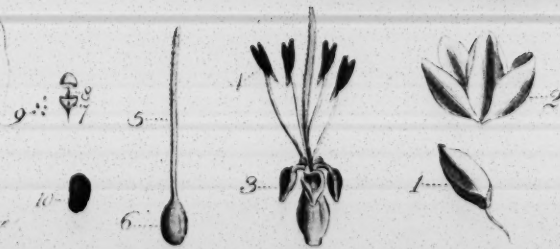
Its round capsules in the axæ of the leaves, like small Coriander seeds, contribute most to the discovering of it.







Plantago major



PLANTAGO - MAJOR. COMMON PLANTAIN.

PLANTAGO *Linnaei. Gen. Pl. TETRANDRIA MONOGYNIA.*

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

PLANTAGO *major* foliis ovatis glabris, scapo tereti, spica flosculis imbricatis. *Lin. Syst. Vegetab. p. 131. Spec. Plant. p. 163. Fl. Suecic. n. 129.*

PLANTAGO foliis petiolatis, ovatis, glabris; spica cylindrica. *Haller. hist. Helv. n. 660.*

PLANTAGO *major. Scopoli. Fl. Carniol. n. 161.*

PLANTAGO latifolia finuata. *Baubin pin. 189.*

PLANTAGO latifolia *Ger. emac. 419.*

PLANTAGO latifolia vulgaris. *Parkinson. 493. Raii Syn. 314. Great Plantain or Waybread. Hudson Fl. Angl. p. 51. Oeder. Fl. Dan. ic. 461. Lightfoot. Fl. Scot. p. 117.*

RADIX vetusta pollicaris, præmorfa, plurimis fibris albidis alte demissis, terram firmiter apprehendens.

FOLIA petiolata præmorfa, ovata, septemnervia, glabra, juniora vero hirsutula, palmaria, margine minutim remoteque dentata.

PETIOLI longi, subtus convexi, supra concavi, basi subvaginati.

SCAPI teretes, erecti, pubescentes, foliis longiores.

SPICÆ cylindricæ, longæ, floribus undique imbricatæ.

BRACTEA lanceolata, concava, sub singulo flosculo. *fig. 1.*

CALYX: PERIANTHIUM tetraphyllum, foliolis ovatis, concavis, obtusis, lævibus, subæqualibus, persistentibus. *fig. 2.*

COROLLA monopetala, persistens, marcescens; TUBUS cylindrico-globosus, brevis, laciniis ovato-acutis, reflexis. *fig. 3.*

STAMINA: FILAMENTA quatuor, capillaria, patentia, corollâ multo longiora; ANTHERÆ purpureæ, biloculares, singulo loculo basi mucrone terminato. *fig. 4.*

PISTILLUM: GERMEN ovatum; STYLUS filiformis, flaminibus brevior, villosus; STIGMA simplex. *fig. 5. 6.*

PERICARPIUM: CAPSULA ovata, circumscissa, fusca, continens SEMINA circiter 20 inæqualia, fusca. *fig. 7. 8. 9. 10.*

ROOT when old the thickness of ones thumb, stumped, laying strong hold of the earth by its fibres, which strike deeply into it and are of a whitish colour.

LEAVES standing on footstalks, oval, having seven ribs, smooth, but somewhat hairy when young, about four fingers in length, the edge minutely and remotely indented.

FOOT-STALKS of the leaves long, convex on the under side, concave above, each forming a kind of sheath at its base.

FLOWER-STALKS, round, upright, pubescent, and longer than the leaves.

SPIKES cylindrical, long, surrounded on every side with flowers lying one over another.

BRACTEA lanceolate, and hollow, under each flower. *fig. 1.*

CALYX: a PERIANTHIUM of four leaves, which are oval, concave, obtuse, smooth, nearly equal and continuing. *fig. 2.*

COROLLA monopetalous, continuing, of a withered appearance; TUBE of a cylindrical globular form, and short; the SEGMENTS oval, pointed, and turned back. *fig. 3.*

STAMINA: FILAMENTS four, very small, spreading, much longer than the corolla; ANTHERÆ purple, bilocular, each cell terminating at bottom in a point. *fig. 4.*

PISTILLUM: GERMEN oval; STYLE filiform, shorter than the Stamina, villous; STIGMA simple. *fig. 5. 6.*

SEED-VESSEL: an oval CAPSULE, dividing horizontally in the middle, and containing about 20 unequal brown SEEDS. *fig. 7. 8. 9. 10.*

This species of *Plantain* grows plentifully in Meadows, Gardens, and by the sides of Paths, and seems to flourish most in places moderately trodden on, whence perhaps its name of *Way-bread*.

In rich ground the leaves often grow to an enormous size; and in gardens we often find cultivated, a very singular and monstrous variety of this plant, the *Plantago rosea* of some botanists, or Rose Plantain of the Gardeners, in which the flowers appear to be converted into leaves, which spread open somewhat like a rose.

Cattle in general appear very readily to eat the leaves, and the seeds are well known to afford food to many of the small birds.

It used to be held in considerable esteem as a Medicine of the vulnerary kind: In the present practice the distilled water is sometimes made use of, and chiefly in ulcerations of the Mouth and Throat. By the common people the leaves are often applied to fresh wounds, and burns.

It differs remarkably in the number of its seeds from the *Plantago lanceolata*, in which we constantly find two large seeds; but in this I have most commonly found about twenty small ones; yet what is very extraordinary, RAY and SCOPOLI mention its having only two.





Plantago media

PLANTAGO MEDIA. HOARY PLANTAIN.

PLANTAGO *Lin. Gen. Pl.* TETRANDRIA MONOGYNIA.

Cal. 4-fidus. *Cor.* 4-fida: limbo reflexo. *Stamina* longissima. *Caps.* 2-locularis, circumscissa.

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

PLANTAGO *media* foliis ovato-lanceolatis pubescentibus, spica cylindrica, scapo tereti. *Lin. Syst. Vegetab.* p. 131. *Sp. Pl.* p. 163. *Fl. Suec.* n. 130.

PLANTAGO foliis subhirsutis, ellipticis, spica cylindrica densa. *Haller. Hist.* n. 659.

PLANTAGO *media.* *Scopoli Fl. Carniol.* 162.

PLANTAGO latifolia incana. *Baubin. Pin.* 189.

PLANTAGO major incana. *Parkins.* 493.

PLANTAGO incana. *Ger. emac.* 419. *Raii Syn.* p. 314. Hoary Plantain, or Lamb's Tongue, *Hudson Fl. Angl. ed. 2.* p. 63. *Lightfoot Fl. Scot.* p. 117.

RADIX perennis, crassitie digiti aut pollicis, subconica, apice in crura aliquot divisa, extus nigricans, plurimis fibrillis instructa.

FOLIA ovata, brevissime petiolata, supra terram expansa, interioribus sensim minoribus, quinque-nervia, subrugosa, utrinque pubescentia, integerrima.

SCAPI plures, teretes, infra folia prodeuntes, spithamæ, aut pedales, erecti, pubescentes, pubes superne erecta, adpressa.

SPICÆ florum cylindricæ, pollicares aut palmares.

BRACTEA, seu squamula lanceolata, concava, margine membranacea, singulo flosculo subjicitur, longitudine calycis.

CALYX: PERIANTHIUM quadripartitum, erectum, persistens; laciniis ovatis, acutiusculis, membranaceis, nervo viridi insignitis. *fig. 1.*

COROLLA monopetala, persistens, tabescens. *Tubus* cylindraceus, basi globosus. *Limbus* quadripartitus, depressus, laciniis ovatis, acutis. *fig. 2.*

STAMINA: FILAMENTA quatuor, capillaria, erecto-patentia, calyce triplo longiora, purpurascens. ANTHERÆ albæ, incumbentes, una extremitate bifida, altera mucronata. *fig. 3.*

PISTILLUM: GERMEN ovatum. STYLUS filiformis, pilosus, staminibus brevior. STIGMA simplex. *fig. 4.*

PERICARPIUM: CAPSULA ovalis, circumscissa, disperma. *fig. 6.*

SEMINA bina, hinc convexa, inde plano concava. *fig. 7.*

ROOT perennial, the thickness of one's finger or thumb, somewhat conic, dividing at the top into a few branches, externally of a blackish colour, and furnished with numerous fibres.

LEAVES ovate, standing on very short foot-stalks, expanded on the ground, the innermost gradually smallest, having five ribs, somewhat wrinkly, downy on both sides, and entire at the edges.

FLOWERING-STEMS several, round, proceeding from below the leaves, from seven inches to a foot in height, upright, downy, the hairs on the upper part of it upright, and pressed to the stalk.

SPIKES of the flowers cylindrical, from one to four inches in length.

FLORAL-LEAF, a floral-leaf or lanceolate small hollow scale, membranous at the edge, and of the length of the calyx, is placed under each floret.

CALYX: a PERIANTHIUM deeply divided into four segments, erect and permanent; the segments ovate, a little pointed, membranous, and marked with a green rib. *fig. 1.*

COROLLA monopetalous, permanent, withered. *Tube* cylindrical, with a globular base. *Limb* divided into four segments, which are pressed downwards, ovate and pointed. *fig. 2.*

STAMINA: four FILAMENTS very slender, somewhat spreading, thrice the length of the calyx, of a purplish colour. ANTHERÆ white, laying across the filaments, one end bifid, the other pointed. *fig. 3.*

PISTILLUM: GERMEN ovate. STYLE thread-shaped, hairy, shorter than the stamens. STIGMA simple. *fig. 4.*

SEED-VESSEL: an oval CAPSULE, dividing horizontally in the middle, and containing two seeds. *fig. 6.*

SEEDS two together, convex on one side, and plano concave on the other. *fig. 7.*

This species of Plantain has a large root when fully grown, which penetrates deep into the earth, and being supplied with numerous lateral fibres, it supports itself in the most scorching seasons, when the plants around it are frequently burnt up. It is also one of those plants which are not destroyed by repeated mowing, as most lawns and grass plots sufficiently testify.

It may be distinguished from the common Plantain by the leaves being smaller, and hoary, standing on shorter foot-stalks, lying close to the ground, and having no notches on the edges; by its spikes being shorter, its filaments longer, its antheræ whiter and more showy, and, if any other difference were wanting, we might add, that its capsules, instead of many, contain only two seeds, as in the *lanceolata*.

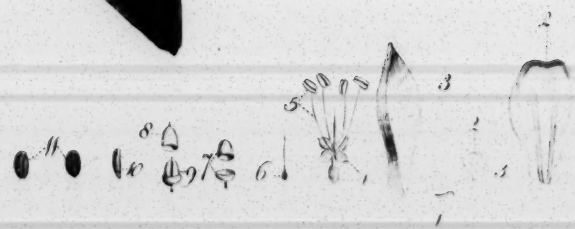
About London it is not so common as either the *lanceolata* or *major*; but where the soil is chalky no plant occurs more frequently. It flowers from June to August.

Sheep, Goats, and Swine, eat it; Kine and Horses refuse it. *Lin. Pan. Suec.*





Plantago lanceolata.



PLANTAGO LANCEOLATA. NARROW-LEAVED PLANTAIN OR RIBWORT.

PLANTAGO *Linnaei Gen. Pl.* TETRANDRIA MONOGYNIA.

Cal. 4-fidus. *Cor.* 4-fida: limbo reflexo. *Stamina* longissima. *Caps.* 2-locularis, circumscissa.

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ, FLORE TETRAPETALO ANOMALÆ.

PLANTAGO lanceolata foliis lanceolatis, spica subovata nuda, scapo angulato. *Linn. Syst. Vegetab.* p. 131.

PLANTAGO foliis lanceolatis quinquenerviis, scapo nudo, spica ovata. *Haller hist. n.* 656.

PLANTAGO lanceolata. *Scopoli Fl. Carniol.* p. 108. n. 163.

PLANTAGO angustifolia major. *Bauhin Pin.* 189.

PLANTAGO quinquenervia. *Gerard emac.* 422.

PLANTAGO quinquenervia major. *Parkinson* 495. *Raii Syn.* p. 314, Ribwort or Ribwort-Plantain. *Hudson Fl. Angl.* p. 52. *Oeder Fl. Dan. icon.* 437.

RADIX perennis, fusca, fibris multis instructa, per ætatem præmorsa.

FOLIA longe petiolata, basi purpurea, lanuginosa, lanceolata, quoad latitudinem insigniter variantia, quinquenervia, rariter dentata, hirsutula, erecta, nonnunquam vero patentia.

SCAPUS foliis longior, simplex, fulcato-angulosus, subtortuosus, erectus.

SPICÆ ovato-oblongæ, nigricantes.

BRACTÆA singulo flosculo imposita, ovato-acuminata, concava, fig. 1.

CALYX: PERIANTHIUM triphyllum, foliolis inæqualibus, duo lateralia cymbiformia, acuta, fig. 3, dorsale ovatum, obtusum, emarginatum, lincis duabus viridibus notatum, fig. 2.

COROLLA monopetala, tubulosa, membranacea, cylindraceo-globosa, limbus quadripartitus, laciniiis ovato-acutis, patentibus, dempto calyce reflexis, fig. 4.

STAMINA: FILAMENTA quatuor longissima: ANTHERÆ albidæ aut flavescentes, fig. 5.

PISTILLUM: GERMEN ovatum: STYLUS filiformis, staminibus dimidio brevior: STIGMA simplex, fig. 6.

PERICARPIUM: CAPSULA ovata, bilocularis, circumscissa, dissepimento libero, fig. 7, 8.

SEMINA duo, oblonga, nitida, fuccinei coloris, hinc convexa inde concava, fig. 9, 10, 11.

ROOT perennial, of a brown colour, furnished with numerous fibres, when grown old appearing as if bitten off.

LEAVES standing on long foot-stalks, purple and woolly at bottom, lanceolate, varying remarkably in their breadth, having five ribs, and a few teeth at the edges, somewhat hairy, upright, but sometimes spreading.

FLOWERING-STALK longer than the leaves, simple, angular and grooved, slightly twisted and upright.

SPIKES of an oval oblong shape and blackish colour.

BRACTEÆ or floral leaf, placed under each floscule, oval-pointed, and concave, fig. 1.

CALYX: a PERIANTHIUM of three unequal leaves, the two side ones boat-shaped, and pointed, fig. 3; the back leaf oval, obtuse, emarginate, fig. 2, and marked with two green lines.

COROLLA monopetalous, tubular, membranous, of a form betwixt globular and cylindrical; the limb quadripartite; the segments of an oval pointed shape, and spreading, on the removal of the calyx turning back, fig. 4.

STAMINA: four very long FILAMENTS: ANTHERÆ white or yellowish, fig. 5.

PISTILLUM: GERMEN oval: STYLE filiform, half the length of the stamina: STIGMA simple, fig. 6.

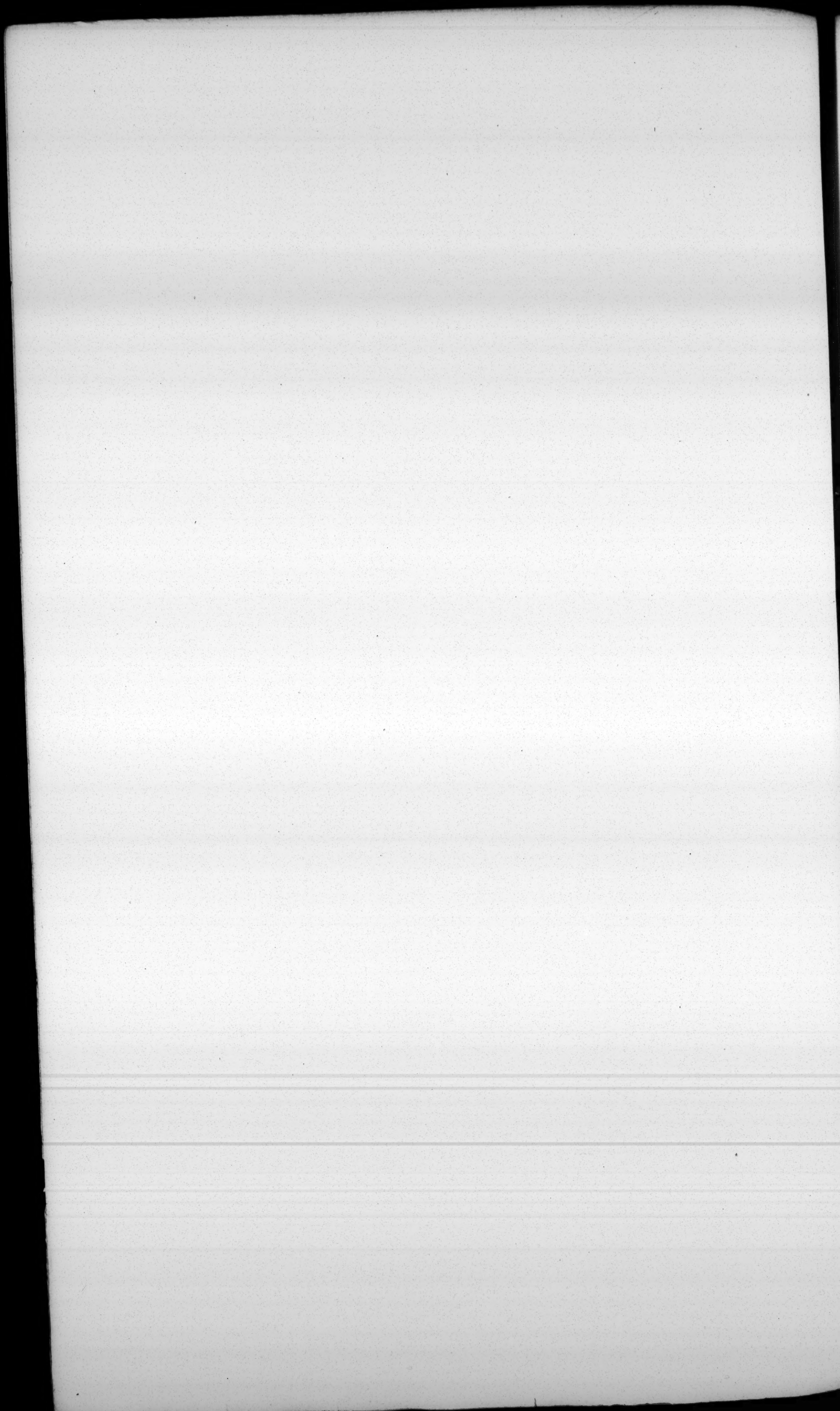
SEED - VESSEL: an oval CAPSULE of two cavities, dividing horizontally in the middle, the dissepimentum or partition loose, fig. 7, 8.

SEEDS two, oblong, shining, of an amber colour, convex on one side and concave on the other, fig. 9, 10, 11.

THE Farmers in general consider this species of *Plantain* as a favourite food of sheep, and other cattle, hence it is frequently recommended in the laying down of meadow and pasture land; and the seed is for that purpose kept in the shops. How far the predilection of cattle for this herb is founded in truth we cannot at present determine; nor do we pretend to say how far it is æconomical (supposing the fact to be so) to substitute this plant in the room of others which produce a much greater crop, and which they shew no aversion to. We should be rather inclined to think, that *Plantain* (or *Rib-Grass* as it is called) should be but sparingly made use of, particularly if the Farmers chief aim be a crop.

When the *Plantain* grows among pasturage, its leaves are drawn up to a considerable height: but when it occurs in a dry and barren soil, they are shorter, broader, and more spread on the ground; and sometimes they assume a silvery hue.

It grows spontaneously by the sides of roads, and in dry pastures; flowering early in the summer.







Sherardia arvensis.

SHERARDIA ARVENSIS.

FIELD SHERARDIA.

SHERARDIA *Lin. Gen. Pl. TETRANDRIA MONOGYNIA.*

Cor. 1-petala, infundibuliformis. *Semina* 2, tridentata.

Raii Syn. Gen. 12. HERBÆ STELLATÆ.

SHERARDIA *arvensis* foliis omnibus verticillatis, floribus terminalibus. *Lin. Syst. Vegetab. p.* 125.
Spec. Pl. p. 149. *Fl. Suec. n.* 120.

SHERARDIA foliis senis lanceolatis, floribus sessilibus umbellatis. *Haller. Hist. n.* 734.

SCHERARDIA *arvensis.* *Scopoli Fl. Carn. n.* 143.

RUBEOLA *arvensis repens cærulea.* *Bauh. Pin.* 334.

RUBIA *minor pratensis cærulea.* *Parkins. p.* 276.

RUBEOLA *parvo flore cæruleo se spargens.* *I. B. III. 719.* *Raii Syn. p.* 225. Little field Madder.
Hudson Fl. Angl. ed. 2. p. 66. *Lightfoot Fl. Scot. p.* 114.

RADIX annua, fibrosissima, fibrillis rufis.

CAULES palmares, spithamæi et ultra, humifusi, asperi, tetragoni.

FOLIA superiora verticillata, sena, seu quina, foliolis lanceolatis, inferiora numero sensim decrescunt, et latiora fiunt, infima sæpius terna, ovata, semiverticillata, omnibus mucronatis, superne scabris.

FLORES umbellati, sessiles, parvi, læte purpurei.

PEDUNCULI axillares, solitarii, tetragoni, perfecta florescentia longitudine foliorum.

CALYX INVOLUCRUM octophyllum, foliolis lanceolatis, carinatis, ciliatis.

CALYX PERIANTHIUM parvum, 6-dentatum, fuperum, persistens, fig. 1.

COROLLA monopetala, infundibuliformis. *Tubus* cylindraceus, longus. *Limbus* quadripartitus, planus, laciniis acutis, fig. 2.

STAMINA: FILAMENTA quatuor ad apicem tubi posita, demisso polline reflexa. ANTHERÆ simplices, pallide purpureæ, fig. 3.

PISTILLUM: GERMEN didymum, oblongum, inferum, fig. 4. STYLUS filiformis, superne bifidus. STIGMATA capitata, fig. 5.

PERICARPIUM nullum; fructus oblongus, coronatus, longitudinaliter in duo semina separabilis.

SEMINA bina, oblonga, apice tribus acuminibus notata, hinc convexa inde plana, fig. 6, 7.

ROOT annual, extremely fibrous, the small fibres reddish brown.

STALKS a hand's breadth, half a foot or more in length, laying on the ground, rough and four-cornered.

LEAVES: those on the upper part of the stalk growing in whorls, five or six together, the leaves lanceolate, the lower leaves gradually decreasing in number, and becoming broader, the lowermost generally growing three together, ovate, and forming half a whirl, all of them terminating in a short point, and rough on the upper side.

FLOWERS growing in umbels, sessile, small, of a bright purple colour.

FLOWER-STALKS growing from the axæ of the leaves, solitary, four-cornered, when the flowering is over the length of the leaves.

CALYX: an INVOLUCRUM of eight leaves, which are lanceolate, keeled and edged with hairs.

CALYX: a small PERIANTHIUM, having six teeth, placed on the top of the germen and permanent, fig. 1.

COROLLA monopetalous, funnel-shaped. *Tube* cylindrical and long. *Limb* flat, divided into four sharp segments, fig. 2.

STAMINA: four FILAMENTS placed at the top of the tube, turning back on the shedding of the pollen. ANTHERÆ simple, pale purple, fig. 3.

PISTILLUM: GERMEN double, oblong, beneath the calyx, fig. 4. STYLE filiform, bifid at top. STIGMATA forming two small heads, fig. 5.

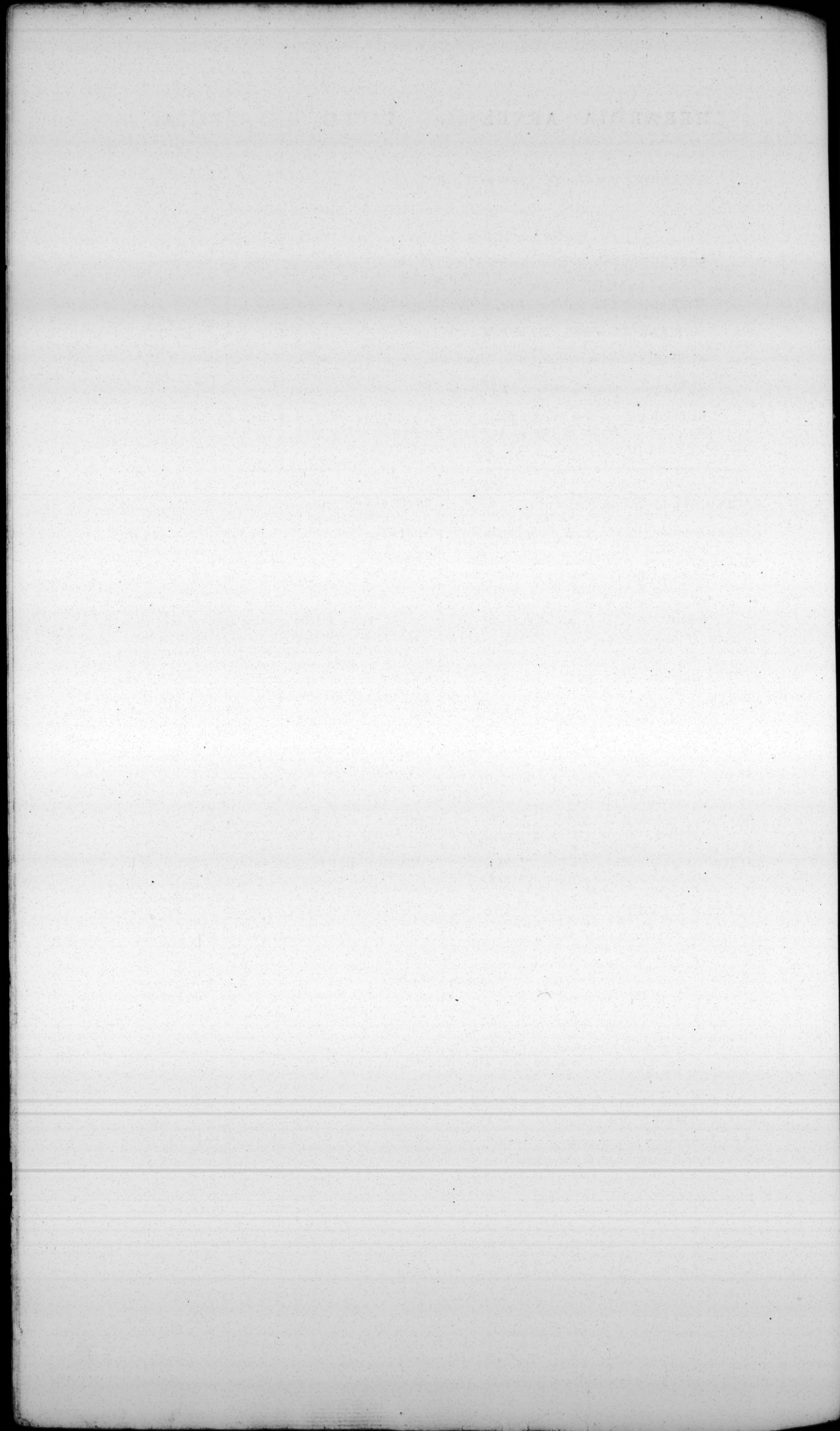
SEED-VESSEL none; the fruit oblong, crowned, separable longitudinally into two seeds.

SEEDS two together, oblong, furnished at top with three points, convex on one side and flat on the other, fig. 6, 7.

TOURNEFORT considered this plant as a species of *Aparine*. The more accurate DILLENIIUS made a new genus of it, to which he gave the name of his friend and patron, that excellent English Botanist Dr. SHERARD. *Vid. Dill. Nov. Pl. Gen. p.* 96.

This small annual is a native of our corn fields, and common almost every where, flowering during the greatest part of the summer.

There is a neatness in its blossoms almost sufficient to recommend it as an ornamental plant: to any other use it does not appear to have the least pretensions.







Asperula odorata.

ASPERULA ODORATA. WOODRUFF.

ASPERULA *Lin. Gen. Pl.* TETRANDRIA MONOGYNIA.

Cor. 1-petala, infundibuliformis. *Semina* 2, globosa.

Raii Syn. Gen. 12. HERBÆ STELLATÆ.

ASPERULA *odorata* foliis octonis lanceolatis, florum fasciculis pedunculatis. *Lin. Syst. Vegetab.* p. 125. *Sp. Pl.* p. 150.

ASPERULA caule erecto, foliis octonis; petiolis ramosis erectis, feminibus hirsutis. *Haller. Hist.* n. 728.

GALIUM odoratum. *Scopoli Fl. Carn.* n. 158.

ASPERULA feu Rubeola montana odora. *Baub. Pin.* 334.

ASPERULA. *Ger. emac.* 966.

ASPERULA aut Aspergula odorata. *Parkins.* 563. *Raii Syn.* p. 225. Woodroof or Woodruffe. *Hudson Fl. Angl. ed. 2.* p. 66. *Lightfoot Fl. Scot.* p. 115. *Oeder Fl. Dan. t.* 562.

RADIX	perennis, tenuis, articulatus, flavescent, paulo infra terram repens, et plurimas fibrillas dimittens.	ROOT	perennial, slender, jointed, of a yellowish colour, creeping a little below the surface of the earth, and sending down numerous small fibres.
CAULIS	erectus, spithameus, plerumque simplex, tetragonus, quadrifurcatus, glaber.	STALK	upright, about a span in height, for the most part perfectly simple, four-cornered, with a groove on each side, and smooth.
FOLIA	plerumque octona, verticillata, lanceolata, mucronata, glabra, spinulis ciliata. <i>fig. 1.</i>	LEAVES	growing generally eight together in a whirl, lanceolate, terminating in a small point, smooth and edged with small spines. <i>fig. 1.</i>
CORYMBUS	terminalis, nudus, erectus.	CORYMBUS	terminal, naked, and upright.
CALYX	nullus.	CALYX	wanting.
COROLLA	monopetala, alba, infundibuliformis. <i>Tubus</i> brevis, germini insidens. <i>Limbus</i> quadripartitus, tubo longior, laciniis lanceolatis, patentibus, crassiusculis. <i>fig. 2.</i>	COROLLA	monopetalous, white, funnel-shaped. <i>Tube</i> short, sitting on the germen. <i>Limb</i> divided into four segments, longer than the tube, segments lanceolate, spreading, thickish. <i>fig. 2.</i>
STAMINA: FILAMENTA	quatuor, ad apicem tubi, brevissima, alba. <i>ANTHERÆ</i> albidæ, longitudine filamentorum, oblongæ, sublineares, incumbentes. <i>fig. 3.</i>	STAMINA: four FILAMENTS	at the top of the tube, very short and white. <i>ANTHERÆ</i> whitish, the length of the filaments, oblong, somewhat linear and incumbent. <i>fig. 3.</i>
PISTILLUM: GERMEN	inferum, viride, subrotundum, utrinque compressum, obsolete didymum, hispidum. <i>STYLUS</i> filiformis, albus, bifidus, antheris brevior. <i>STIGMATA</i> duo, globosa, inæqualia. <i>fig. 4, 5, 6.</i>	PISTILLUM: GERMEN	placed beneath the corolla, of a green colour, roundish, flattened on both sides, obscurely double, and hispid. <i>STYLE</i> filiform, white, bifid, shorter than the antheræ. <i>STIGMATA</i> two, globular and unequal. <i>fig. 4, 5, 6.</i>
NECTARIUM:	<i>Glandula</i> parva basin styli cingens.	NECTARY:	a small <i>Gland</i> surrounding the base of the style.
PERICARPIUM:	<i>Baccæ</i> duæ, siccæ, globosæ, coalitæ, hispidæ. <i>fig. 7.</i>	SEED-VESSEL:	two, dry, round, hispid berries united together. <i>fig. 7.</i>
SEMINA	solitaria, subrotunda, magna. <i>fig. 8.</i>	SEEDS	single, large and roundish. <i>fig. 8.</i>

The flowers of *Woodruff* have an agreeable smell, and the whole plant, when dried, diffuses an odour like that of the *sweet-scented Vernal-grass*. Kept among cloaths, it not only imparts to them an agreeable perfume, but, according to *LIINNÆUS*, preserves them from insects.

RAY informs us, that it gives its flavour to vinous liquors; and that the Germans use it much for that purpose.

As a medicinal plant, it is supposed to attenuate viscid humours, and strengthen the tone of the Bowels, whence it is recommended in obstructions of the liver and biliary ducts, and by some in Epilepsies and Palsies: modern practice has nevertheless rejected it.

It is common in the woods about *London*, especially *Charlton Wood*; and flowers in *May* and *June*.





Galium verum.

GALIUM VERUM. YELLOW LADIES-BEDSTRAW.

Linn. Gen. Pl. TETRANDRIA MONOGYNIA.

Cor. monopetala, plana, Sem. duo, subrotunda.

Raii Syn. Gen. 12. HERBÆ STELLATÆ.

GALIUM *verum* foliis octonis linearibus fulcatis, ramis floriferis brevibus. *Linn. Syst. Veg. ed. 14. Murr. p. 150. Sp. Pl. p. 155.*

GALIUM foliis linearibus, perangustis, octonis, racemis multifloris, spicatis. *Hall. Hist. n. 710. Scop. Fl. Carn. n. 153.*

GALLIUM luteum. *Baub. Pin. p. 335. Ger. em. 1126. Park. 565. Raii Syn. p. 224. Yellow Ladies-Bedstraw, or Cheefe-Rening. Hudf. Fl. Angl. ed. 2. p. 69.*

RADIX perennis, repens, tenuis, sublignosa, lutea.

CAULIS pedalis, ad bipedalem, erectus, obsolete tetragonus, parum flexuosus, geniculatus, scaber, inferne minus superne magis pubescens, pallide viridis, versus summum ramosus; Genicula cylindracea, subovata, albida, margine tenui cincta; Rami brachiatim oppositi, alterni multo breviores, patulo-erecti, floriferi.

FOLIA subpollicaria, margini genicularum inserta, sessilia, verticillata, reflexo-patula, linearia, obtusiuscula, submucronulata, basi attenuata, margine utrinque revoluta, aculeisque minutis oculo armato tantum conspicuis sursum aspero, supra rugosiuscula, obscure viridia, nitentia, subtus canaliculata, pallidiora, inferiora plerumque octona, non raro dena, superiora septena, sena, quina, quaterna, suprema terna, bina, et ad ultimos pedicellos singula.

FLORES paniculati, numerosi, parvuli, flavi, peculiari odore fragrant.

PANICULA e ramis floriferis composita, spithamea, et ultra, interrupta, ramosa, ramis multifloris, inæqualibus, foliosis, foliolis pedicellorum solitariis.

CALYX vix conspicuus, *fig. 1.*

COROLLA monopetala, rotata, patens, ungue nulla; laciniis quatuor, planis, subreflexis, distantibus, ovalibus, acutis, *fig. 2.*

STAMINA: FILAMENTA 4, capillaria, erecta, corolla breviora; **ANTHERÆ** rotundatae, flavæ, peracto officio fuscæ, *fig. 3.*

PISTILLUM: GERMEN subrotundum, didymum, compressum, glabrum; **STYLUS** profunde bipartitus; **STIGMATA** capitata, *fig. 4, 5, 6.*

PERICARPIUM: BACCÆ duæ, siccæ, globosæ, coalitæ.

SEMINA solitaria, subreniformia, rugosa.

ROOT perennial, creeping, slender, somewhat woody, of a yellow colour.

STALK from one to two feet high, upright, slightly four-cornered, a little crooked, jointed, rough, below slightly, above more obviously pubescent, of a pale green colour, branched towards the top; the joints cylindrical, somewhat ovate, whitish, surrounded with a slight margin; Branches cross-ways opposite, the alternate ones much the shortest, bearing upright and spreading, flower-bearing.

LEAVES about an inch in length, inserted into the edge of the joints, sessile, whorled, spreading and somewhat turned back, linear, bluntish, with a slight point, narrowed at the base, the edge on each side rolled back, and rough with minute prickles turned upwards, which are visible only with a magnifier, above slightly wrinkled, of a deep green colour, glossy, underneath hollowed, of a paler colour, the lowermost growing usually eight in a whorl, not unfrequently ten, the upper ones decreasing to 7, 6, 5, 4, 3, 2, and even 1 at the extremities of the branches.

FLOWERS growing in a panicle, numerous, small, yellow, fragrant with a peculiar odour.

PANICLE composed of the flowering branches, about a span in length, interrupted, branched, branches many-flowered, unequal, leafy, the small leaves of the pedicles single.

CALYX scarcely visible, *fig. 1.*

COROLLA monopetalous, wheel-shaped, spreading, without any claw, divided into four segments, which are flat, a little turned back, distant, oval, and pointed, *fig. 2.*

STAMINA four capillary **FILAMENTS**, upright, shorter than the corolla; **ANTHERÆ** roundish, yellow, finally brownish, *fig. 3.*

PISTILLUM: GERMEN nearly round, double, flattened, smooth; **STYLE** deeply divided into two; **STIGMATA** two little heads, *fig. 4, 5, 6.*

SEED-VESSEL: two, dry, globular

BERRIES united together.

SEEDS single, somewhat kidney-shaped and wrinkled.

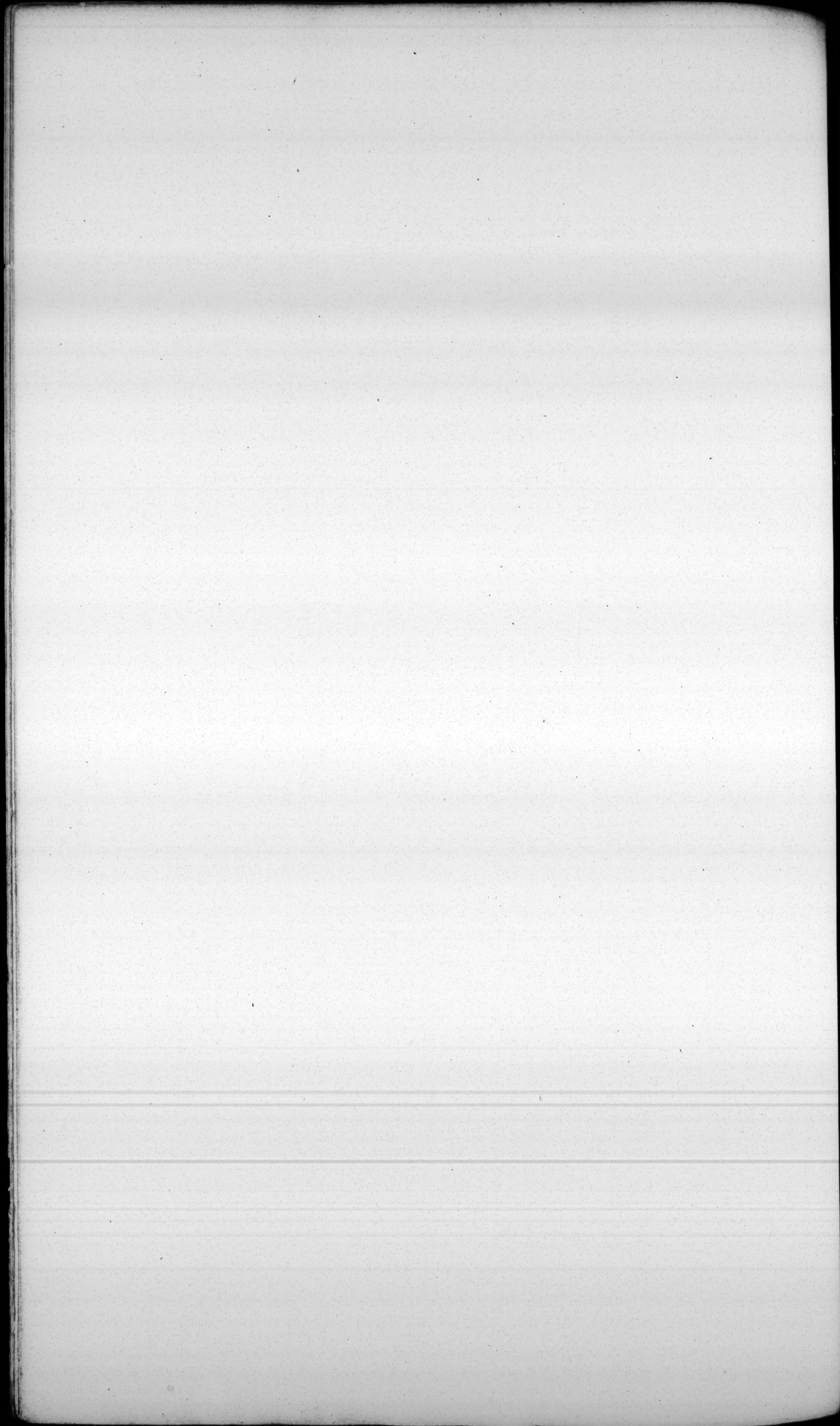
Grows plentifully in the neighbourhood of London, in dry hilly pastures, and on the borders of fields, flowering in June, July, and August.

We have seen the foliage of this plant, when all the surrounding herbage has been parched up, support the finest verdure; perhaps on this account it may be cultivated to advantage on such lawns as are apt in dry seasons to "disclose an arid hue."

An ingenious gentleman conversant in dying, assured me that it was a plant highly deserving of culture, as an article in that business; for that the roots, though not so large as those of Madder, produced a brighter colour, and that the whole of the herbage dyed a good yellow, in which respect it had the advantage over Madder.

The flowers of this plant have a moderately strong, not disagreeable smell, the leaves little or none: they both discover to the taste a sensible acidity, which they manifest also by changing the juices of blue flowers to a red, and by coagulating boiling milk: they are said to be in some places commonly made use of in this last intention, whence one of the common names of the plant *Cheefe rennet*. Their acid matter appears to be (if *BORRICHIIUS*'s experiment is to be depended on) of a more subtle kind than that of Sorrel, and than the other native vegetable acids that have been examined; the flowery tops committed to the still as soon as gathered, giving over a pretty strong acid liquor in a moderate heat, wherein Sorrel yielded only an insipid phlegm. The restringent and refrigerating virtues ascribed to this plant appear from these experiments to have some foundation. *Lewis's Mat. Med. p.* When it diffuses a stronger odour than common, it denotes, according to *LOESEL*, rainy and tempestuous weather.

This plant is subject to a disease, in which the stem and branches are set with fleshy balls, about the size of a pea, hollow within, and covered with a purplish skin. **WITHERING.**







GALIMUM APARINE. CLEAVERS OR GOOSE GRASS.

GALIMUM *Linnaei*. Gen. Pl. TETRANDRIA MONOGYNIA.

Cor. 1-petala, plana. Sem. 2, subrotunda.

Raii Gen. 12. HERBÆ STELLATÆ.

GALIMUM *Aparine* foliis octonis lanceolatis, carinis scabris retrorsum aculeatis, geniculis villosis, fructibus hispidis. *Linnaei Syst. Vegetab.* p. 127. *Sp. Pl.* 157. *Flor. Suecic.* p. 45.

GALIMUM caule ferrato, foliis senis, linearibus, lanceolatis, ferratis, petiolis unifloris. *Haller hist. helv.* n. 723.

GALIMUM *Aparine*. *Scopoli Fl. Carniol.* n. 157.

APARINE vulgaris. *Baubin Pin.* 334.

APARINE *Gerard emac.* 1122. *Parkinson* 567. *Raii Syn.* p. 225, Cleavers or Goose-Grass. *Hudson Fl. Angl.* p. 57. *Oeder Flor. Dan. icon.* 495. *Lightfoot Flor. Scot.* p. 117.

RADIX annua, fibrosa.

CAULIS tetragonus, angulis retrorsum aculeatis, debilis, fragilis, geniculatus, basi articulorum villosus, ramosissimus, ad quatuor et ultra pedes altus, proxima quæque scandens, adhærescensque.

RAMI oppositi.

FOLIA sena ad octona, lanceolato-linearia, mucronata, superne scabra, inferne glabra margine et carina retrorsum aculeatis.

FLORES pauci, parvi, albidi, petiolis scabris infidentibus.

CALYX nullus.

COROLLA minima, monopetala, rotata, albida, quadripartita, laciniis ovato-acutis, fig. 1.

STAMINA: FILAMENTA quatuor, brevia, alba: ANTHERÆ luteæ, fig. 2.

PISTILLUM: GERMEN didymum, inferum, villosum: STYLI duo Corollæ breviores: STIGMATA globosa, fig. 4, 5, 6.

PERICARPIMUM: BACCÆ duæ, siccæ, globosæ, coalitæ, hispidæ, aculeis recurvis, fig. 7.

SEMINA solitaria, reniformia, magna.

ROOT annual, fibrous.

STALK quadrangular, the angles furnished with aculei or prickles, which bend backward, weak, brittle, and jointed; the bottom of the joints villous, very much branched, growing to four feet or more high, climbing and adhering to every plant near it.

BRANCHES opposite.

LEAVES growing six or eight together, of a shape betwixt lanceolate and linear, terminating in a point, rough on the upper side, on the under side smooth, the edge and midrib, or keel rough, with sharp prickles bending backwards.

FLOWERS few, small, and whitish, sitting on rough foot-stalks.

CALYX wanting.

COROLLA very minute, monopetalous, wheel-shaped, of a whitish colour, divided into four oval pointed segments, fig. 1.

STAMINA: four short white FILAMENTS: ANTHERÆ yellow, fig. 2.

PISTILLUM: GERMEN double, below the Corolla, villous: STYLES two, shorter than the Corolla: STIGMATA globular, fig. 4, 5, 6.

SEED-VESSEL: two dry globular BERRIES, slightly joined together, rough with prickles bending back at the point, fig. 7.

SEEDS single, somewhat kidney shaped, and large.

THIS plant has most probably obtained its name of *Cleavers*, from its cleaving or adhering to whatever it comes in contact with, which it is in a peculiar manner enabled to do, by its hooked prickles; and that of *Goose-Grass* from its being a favourite food of Geese.

It abounds in all cultivated ground, and by its quick growth, is apt to overpower many plants both in the garden and field. Young quickset hedges, in a particular manner, should be carefully freed from it. It is an early blowing plant, and produces its seed from June to September.

Dioscorides observes, that the shepherds made use of it as a strainer to filter their milk through.

If the accounts given of it, by writers on the *Materia Medica*, are to be depended on, it is not without considerable medicinal powers.

The expressed juice of the seeds, stalks, and leaves, are powerful against the bites of vipers and spiders; and the same dropt into the ears, cures the pain of them; *Raii hist.* p. 484.

The herb mixed with lard, dissolves scrophulous swellings; *idem.*

The tops are an ingredient in spring broth, for purifying the blood; *Rutty Mater. Med.*

The seeds have been made use of by some instead of coffee; *idem.*

A strong decoction of the herb, taken to the quantity of twelve ounces, morning and evening, has brought away gravel in many cases; *idem.*

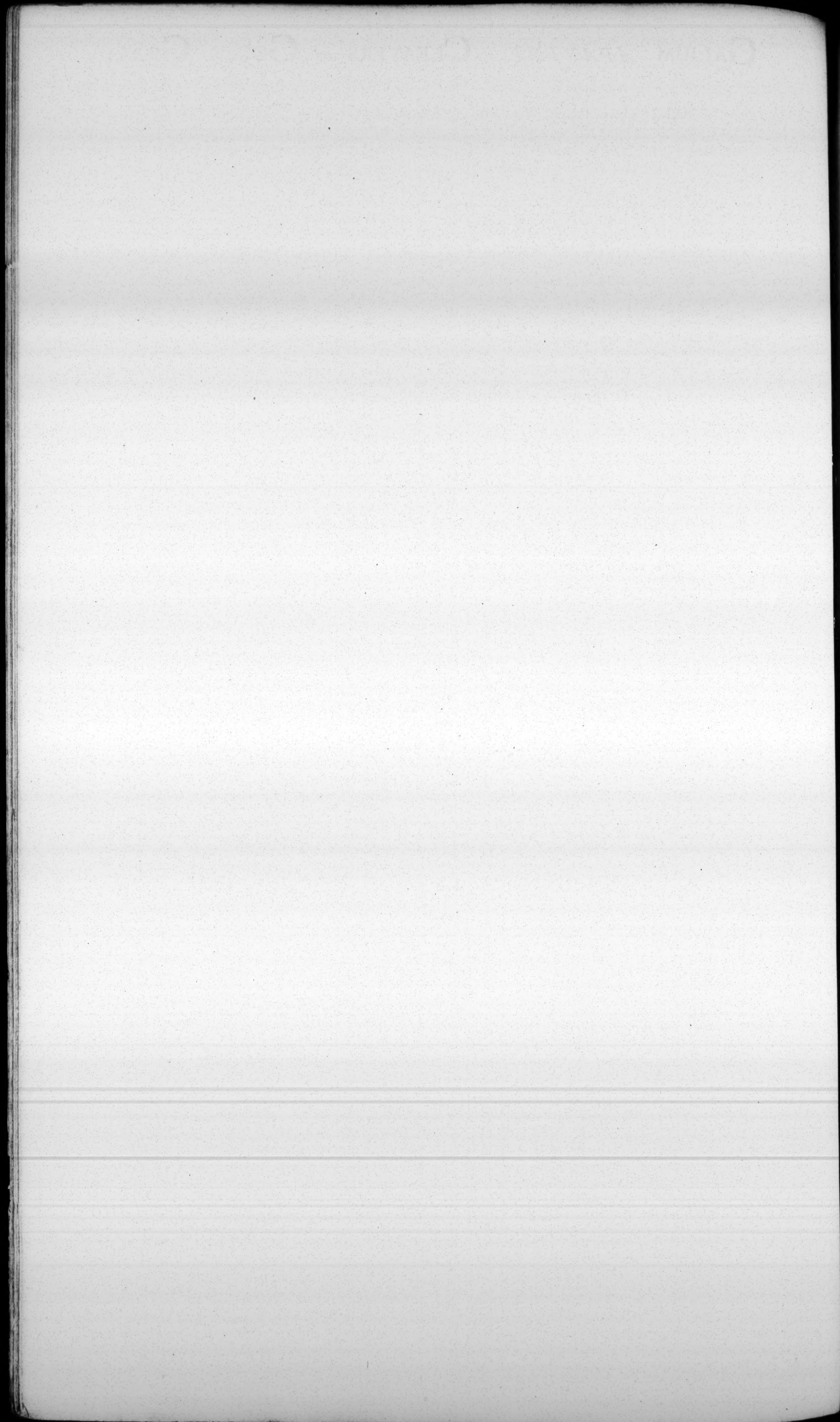
The root eaten by birds, has tinged their bones of a red colour, as in experiments made with madder; *idem.*

A decoction of the plant has proved highly serviceable in a simple gonorrhœa; *D. Palmer apud Dale.*

Of late this plant has been much celebrated in scrophulous and cancerous sores: but experiments carefully made with it, in St. Thomas's Hospital, have not turned out in its favour.

It is eaten by horses, kine, sheep, and goats, but refused by swine; *Linn. Amæn. Acad.*

The Calyx in this species, is certainly wanting.







Sagina erecta

Samson. sculp

SAGINA ERECTA. UPRIGHT PEARLWORT.

SAGINA *Linnaei* Gen. Pl. TETRANDRIA TETRAGYNIA.

Cal. 4-phyllus. Petala 4. Caps. 1 locularis, 4 valvis, polysperma.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAGINA *erecta* caule erecto subunifloro. Linn. Syst. Vegetab. p. 142. Sp. Pl. p. 185.

ALSINELLA foliis caryophylleis. Cat. Gifs. 47.

SAGINA scapis unifloris. Guett. Stamp. p. 276. Dalib. Paris. p. 56.

ALSINE verna glabra. Magn. Monsp. 14. Vaill. Paris. 6. t. 3. fig. 2. Raii Syn. fig. 4. t. 15. p. 344, the least Stich-wort.

Hudson. Fl. Angl. ed. 2. p. 73.

Lightfoot. Fl. Scot. p. 125.

RADIX annua, simplex, fibrosa.

CAULES plerumque plures, supra terram expansi, ascendentes, bi aut triunciales, teretes, purpurascens, læves, geniculati, uniflori, biflori aut etiam triflori.

FOLIA glauca, inferiora linearia, sessilia, rigida, lineâ longitudinali exarata, caulina connata, sæpe recurvata, latiora, magisque acuminata.

CALYX: PERIANTHIUM tetraphyllum, persistens, foliolis ovato acuminatis, erectis, plerumque clausis, margine membranaceis albidis, lævibus, glaucis, fig. 1.

COROLLA: PETALA quatuor calyce breviora, alba, oblonga, obtusa, substriata, apice indivisa, fig. 2, auct.

STAMINA: FILAMENTA quatuor, intra petala locata, petalis paulo breviora, setacea: ANTHERÆ subrotundæ, didymæ, flavescentes, fig. 3, 4.

PISTILLUM: GERMEN ovatum: STYLUS brevissimus, longitudine staminum: STIGMATA quatuor, villosa, reflexa, fig. 5, 6.

PERICARPIUM: CAPSULA oblongo ovata, membranacea, unilocularis, univalvis, calyce paulo longior, ore plerumque decedentato, fig. 7, 9, fig. 8, auct.

SEMINA plurima, e fusco aurantiaca; subreniformia, scabra, fig. 10, 11.

ROOT annual, simple, and fibrous.

STALKS for the most part several, expanded on the earth, and afterwards rising upright, from two to three inches high, round, purplish, smooth, jointed, supporting from one to three flowers.

LEAVES glaucous; the lower ones linear, sessile, rigid, grooved; those on the stalk uniting at their base, often bent back, broader, and more pointed.

CALYX: a PERIANTHIUM of four leaves, permanent, the leaves oval and pointed, upright, generally closed, membranous and whitish on the edges, smooth and glaucous.

COROLLA: four PETALS shorter than the calyx, white, oblong, obtuse, somewhat striated, and undivided at top, fig. 2. magnified.

STAMINA: four FILAMENTS placed between the petals, and a little shorter than the petals, setaceous: ANTHERÆ roundish, double, of a yellowish colour, fig. 3, 4.

PISTILLUM: GERMEN oval: STYLE very short, the length of the stamens: STIGMATA four, villous, and turning back, fig. 5, 6.

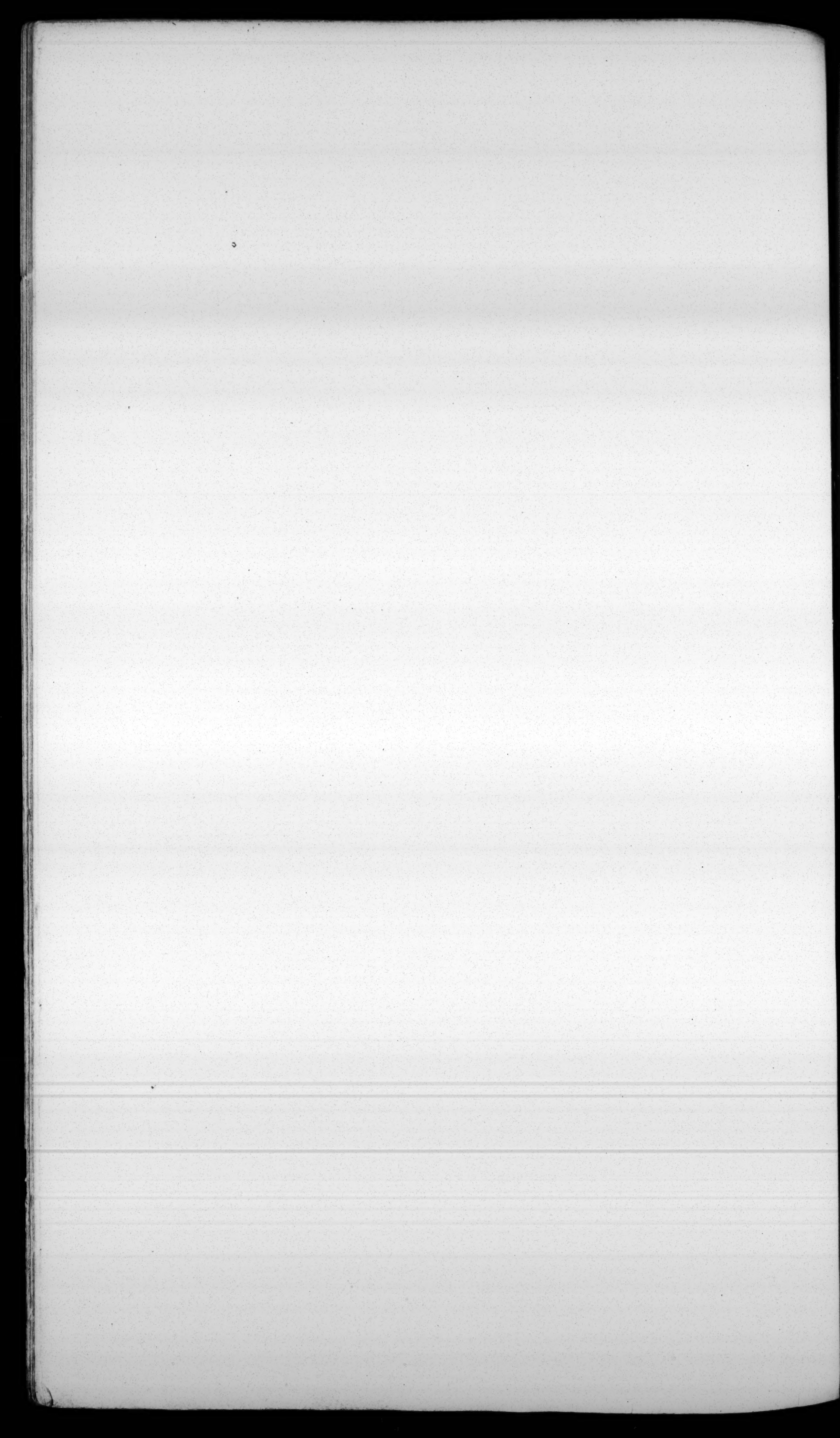
PERICARPIUM: an oblong, oval, membranous CAPSULE, of one cavity and one valve, a little longer than the calyx, the mouth opening generally with ten teeth, fig. 7, 9. fig. 8, magn.

SEEDS numerous, of an orange brown colour, somewhat kidney-shaped, and rough on the surface, fig. 10, 11.

IN treating of this little plant, we have been rather at a loss whether to consider it as a new genus, or arrange it with the *Sagina* of LINNÆUS: for though it agrees with the *Sagina* in some of its most striking characters, such as having a Calyx and Corolla each consisting of four leaves, together with four Stamens and Pistilla, yet in its seed-vessels, which probably LINNÆUS might not have seen in a perfect state, it greatly resembles a *Cerastium*; while the whole plant, in its habit and glaucous appearance, approaches nearly to the *Stellaria Holostea*. As there are but few genera however, whose species do not vary considerably in the parts of fructification, we have thought it most eligible to continue it a *Sagina*; especially as it retains those characters, which obviously distinguish it from any of the Decandrous plants.

We meet with it abundantly on most of the Heaths about London, particularly on *Black-heath*. It flowers in April, and ripens its seed in May. The calyx never opens far, so that the blossoms are not suffered fully to expand.

If the season prove dry, as hath been most unusually the case this year, 1779, the stalk is generally simple; but if the ground be moist, it throws out many stalks, which first spread on the earth, and afterwards become upright, as is represented in the middle figure.







Sagina procumbens

SAGINA PROCUMBENS. PROCUMBENT PEARLWORT.

SAGINA *Linnaei* Gen. Pl. TETRANDRIA TETRAGYNIA.

Cal. 4-phyllus. Petala. 4. Caps. 1-locularis, 4-valvis, polysperma.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAGINA *procumbens* ramis procumbentibus. Lin. Syft. Vegetab. Sp. Plant. 185. Fl. Suec. n. 155.

ALSINE *tetraftemon* foliis connatis, lanceolatis. Haller hift. n. 861.

SAGINA *procumbens*. Scopoli Fl. Carn. n. 183.

SAXIFRAGA *anglicana* alīnefolia. Gerard emac. 568.

CARYOPHYLLUS *minimus* muscosus nostras. Parkinson. 1340.

ALSINELLA *muscoso flore* repens. Cat. Gifs. Raii. Syn. p. 345. Pearl-wort, Chickweed Breakstone.

Hudson. Fl. Angl. ed. 2. p. 73.

Lightfoot. Flor. Scot. p. 125.

RADIX annua plerumque, in locis vero umbrosis sæpe perennat.	ROOT generally annual, but in shady places often perennial.
CAULES plurimi, in umbrosis humentibus repentes, in aridis erecti, bi, triunciales, teretes, glabri, geniculati, ramosi, proliferi.	STALKS numerous, in shady moist places creeping, in dry situations upright, two or three inches in length, round, smooth, jointed, branched and proliferous.
FOLIA femunciam longa, opposita, patentia, connata, subulata, mucronata, glabra, saturate viridia, fasciculatim ramos terminantia.	LEAVES half an inch long, opposite, spreading, joining at bottom, in a row, and tapering, terminated by a fine hair-like point, smooth, of a deep green colour, and terminating the branches in clusters.
PEDUNCULI axillares, plerumque uniflori, alterni, foliis longiores, priusquam flores aperiantur apice nutantes.	FLOWER-STALKS growing from the axæ of the leaves, usually supporting one flower, longer than the leaves, before the blossoms open nodding at top.
CALYX: PERIANTHIUM tetraphyllum, foliolis ovatis, concavis, persistentibus, patentibus, fig. 1.	CALYX: a PERIANTHIUM of four leaves, which are oval, hollow, permanent, and spreading, fig. 1.
COROLLA: PETALA quatuor, minima, calyce triplo breviora, alba, patentia, sæpe manca, fig. 2.	COROLLA: four PETALS, very minute, three times shorter than the calyx, white, spreading, and often imperfect, fig. 2.
STAMINA: FILAMENTA quatuor, capillaria; ANTHERÆ subrotundæ, flavæ, fig. 3.	STAMINA: four FILAMENTS very fine; ANTHERÆ roundish and yellow, fig. 3.
PISTILLUM: GERMEN subglobosum; STYLI quatuor, subulati, recurvi, pubescentes; STIGMATA simplicia, fig. 4.	PISTILLUM: GERMEN somewhat globular; STYLES four, tapering, bending back a little, with an appearance of down on them; STIGMATA simple, fig. 4.
PERICARPIUM: CAPSULA subovata, pellucida, calyce patulo insidens, unilocularis, quadrivalvis, fig. 5.	SEED-VESSEL: a CAPSULE somewhat oval, and pellucid, sitting on the spreading calyx, having one cavity and four valves, fig. 5.
SEMINA numerosa, minima, rufa, receptaculo affixa.	SEEDS numerous, very small, of a reddish brown colour, and affixed to a receptacle.

Few plants are more liable to mislead the young Botanist than this, as there are few that assume so great a variety of appearance, in moist shady situations, especially if growing on the ground, it creeps and forms a thick close turf and looks like a patch of grass, the leaves are of a fine deep green and rather fleshy, on walls especially if it be the shady side, it frequently grows upright even to the height of six inches, and is in every respect more slender, on walls that are exposed to the sun it seldom grows more than two inches high, under all this diversity, the singular appearance of its seed vessels will in general easily distinguish it, being placed on the center of the expanded permanent calyx like a cup on a saucer.

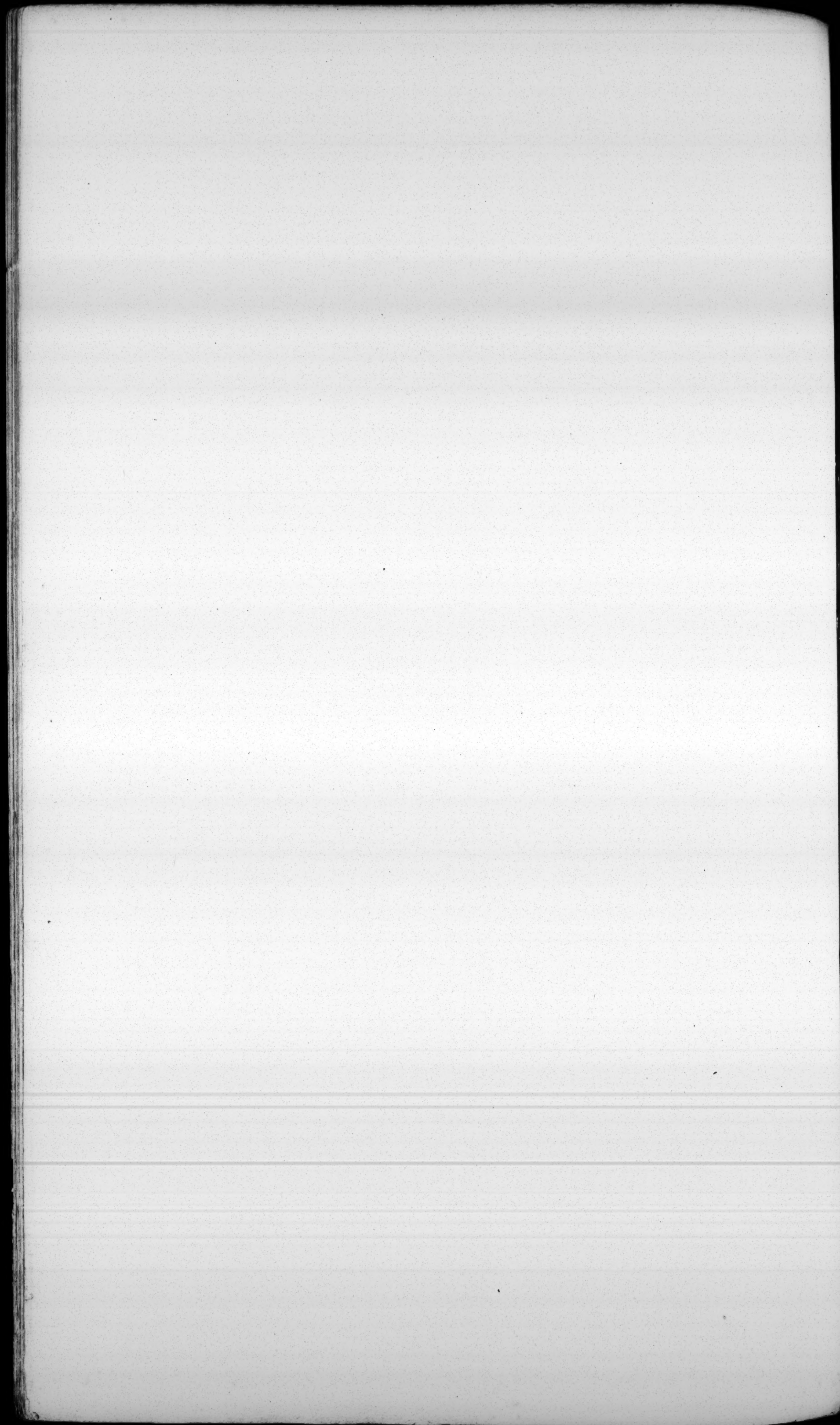
Its petals are very minute, generally imperfect and sometimes wanting.

It is not unusual to meet with it, having one fifth part of its fructification encreased.

Being fond of a gravelly soil it often becomes a troublesome weed in gravel walks.

It continues to flower during the whole of the summer.

In the leaves we have a good example of the *folium mucronatum*.







Sagina *apetala*.

SAGINA APETALA. ANNUAL PEARL-WORT.

SAGINA *Lin. Gen. Pl.* TETRANDRIA TETRAGYNIA.

Cal. 4-phyllus. *Petala* 4. *Capf.* 1-locularis, 4-valvis, polysperma.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAGINA *apetala* radice annua, caule erectiusculo pubescente.

SAGINA *apetala* caule erectiusculo pubescente, floribus alternis apetalis. *Lin. Mantiss.* 559. *Syst. Vegetab.* p. 142.

SAGINA caulibus erectis, radice annua, floribus apetalis. *Ard Spec.* 2. p. 22. t. 8. fig. 1.

SAXIFRAGA Anglica Alfinefolia annua. *D. Plot Hist. Nat. Oxf.* c. 6. § 9. t. 9. f. 7. *Raii Syn.* p. 345. Annual Pearl wort.

ALSINE Saxifraga graminifolia, flosculis tetrapetalis herbidis et muscosis. *Pluk. Alm.* t. 74. f. 2.

SAGINA procumbens var. β. *Hudson Fl. Angl.* ed. 2. p. 73.

RADIX annua, fibrosa.

CAULES plures, primo procumbentes, demum erecti, unciales, triunciales et ultra, teretes, filiformes, hispiduli, nodosi.

FOLIA opposita, lineari-subulata, brevia, mucronata, hispidula.

FLORES alterni, pedunculati.

PEDUNCULI apice primo nutantes, demum erecti, pilis raris vestiti.

CALYX: PERIANTHIUM tetraphyllum subinde pentaphyllum, foliolis ovatis, obtusis, concavis, lavibus, persistentibus, marginibus purpurascens, fig. 1.

COROLLA: PETALA plerumque quatuor, minutissima, nudo oculo vix conspicua, alba, obcordata, fig. 2.

STAMINA: FILAMENTA quatuor alba, calyce breviora. ANTHERÆ albæ, fig. 3.

PISTILLUM et Capsula ut in Sagina procumbente.

ROOT annual and fibrous.

STALKS several, at first procumbent, afterwards upright, from one to three inches or more in height, round, filiform, somewhat hispid, and jointed.

LEAVES opposite, linear, and somewhat awl-shaped, short, terminated by a fine point, and somewhat hispid.

FLOWERS alternate, and standing on foot-stalks.

FLOWER-STALKS first drooping at top, finally upright, covered with a few hairs.

CALYX: a PERIANTHIUM of four, sometimes five, ovate, obtuse, hollow, smooth, permanent leaves, with purplish edges, fig. 1.

COROLLA: generally composed of four PETALS, which are extremely small, and scarcely visible to the naked eye, white and inversely heart-shaped, fig. 2.

STAMINA: four white FILAMENTS, shorter than the calyx. ANTHERÆ white, fig. 3.

PISTILLUM and Capsule as in the procumbent Pearl-wort.

Mr. RAY, in his Synopsis, considers this species as distinct from the *procumbens*; and informs us, that it differs from it not only in the colour of its stalks and leaves, which are of a browner hue, but that it has an annual root; and that it does not put forth roots at the joints as the *procumbens* does, he refers to a figure given of it by PLOT in his Natural History of Oxfordshire.

Notwithstanding RAY's description, and PLOT's figure, LINNÆUS, in his *Spec. Plant.* considered it only as a variety of the *procumbens*; but afterwards, more fully convinced by the description and figure given of this plant by ARDUINI, an Italian Botanist, he adopts it in his second *Mantissa* as a species. It appears, by Mr. HUDSON's quotations, that he has been no stranger to the observations of these authors; but, in opposition to them all, he continues it only as a variety.

From a thorough conviction of the propriety of Mr. RAY's conduct in making it a species, we have given a separate figure of it, and shall not only confirm his account, but give a few additional remarks of our own, which we presume may finally settle this matter.

The distinction of an annual and perennial root, though it cannot be admitted, perhaps, in all cases as a specific character, must be allowed to have considerable weight. To ascertain the constancy of this character we have for several years cultivated the two plants close together, on a wall with partitions containing earth; the result has been that the *apetala* has proved as regular an annual as the *Draba verna*, while the *procumbens* has continued green through the winter; and we have no doubt but this always is the case with these plants, when they grow in their natural situations.

The *procumbens* is always procumbent; and when it grows, as it most commonly does, in moist situations, it mats and spreads on the ground. The stalks of the *apetala*, when the plant is young, spread on the ground; but as it advances to maturity they rise up, and, if several grow together, become quite erect. Where the plants grow singly, and in a dry situation, they neither acquire the same height, nor the same degree of uprightness. Sometimes this species is found on moist shady walls, much taller and more branched than the specimens we have figured; but whether the plants of the *apetala* be small or large, their stalks and leaves are always hairy; while in the *procumbens* they are perfectly smooth, the hairs are visible to the naked eye, and when magnified have no little globules at their extremities, as those of the *Spergula saginoides* have, which comes very near in its appearance to the Pearl-wort: thus we find these three difficult plants may, with certainty, be distinguished by their stalks alone.

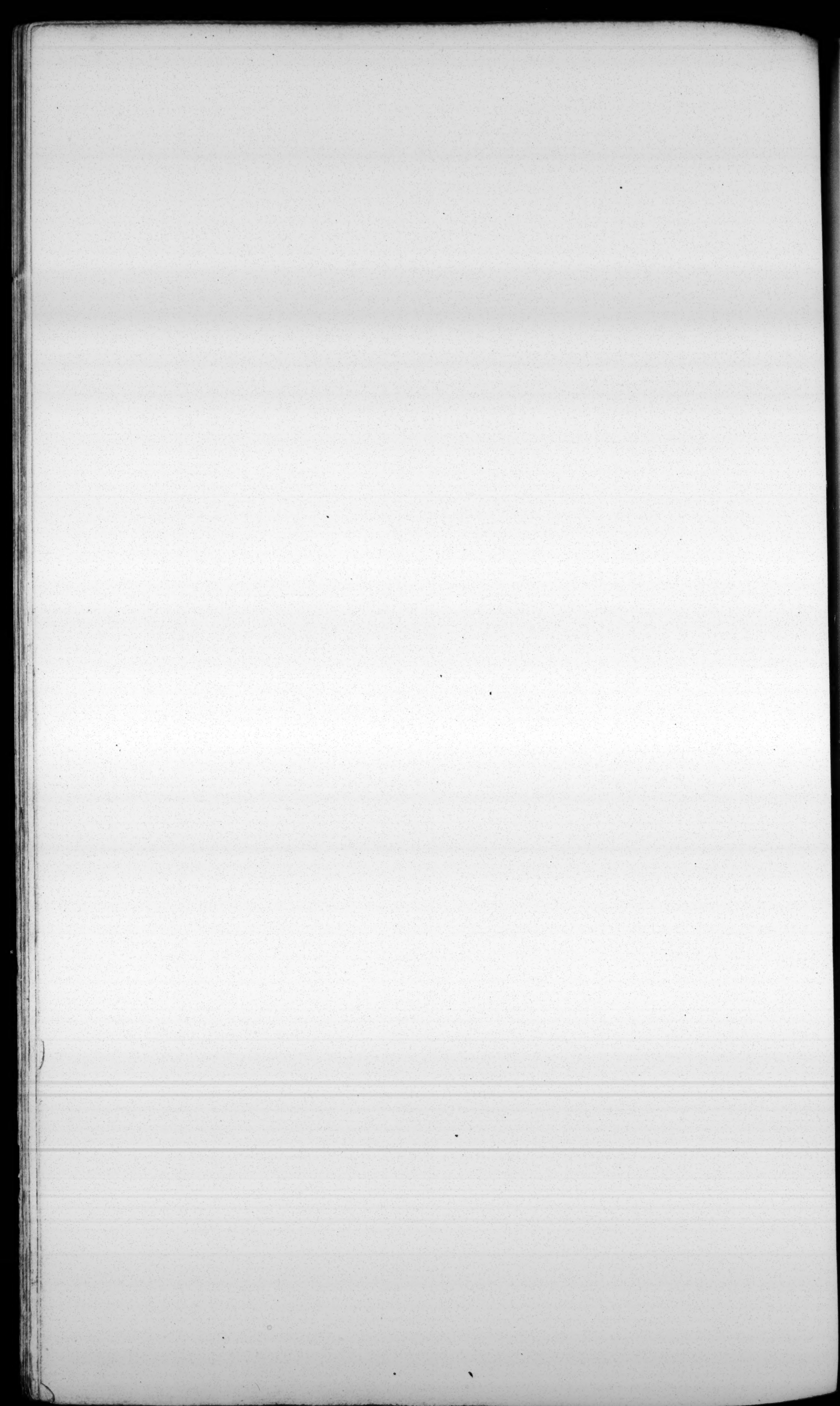
The *apetala* is a smaller plant than the *procumbens*, and much finer in its stalks. Its leaves are also shorter by almost one-half, and less succulent; and these, so far we have observed, are the chief differences.

From its name one would be led to suppose, that it was perfectly apetalous; and both LINNÆUS and ARDUINI describe it as such. We have generally found it with petals; but so minute, indeed, as almost to require a magnifier to render them visible. These petals we have given a magnified view of, and have represented the plant in the several states in which it is found in dry situations.

Mr. RAY does not appear to have had an idea of its being a common plant, as he mentions the particular spots where it was to be found: with us there is no plant more abundant, especially on walls, in gravel walks, where it is a troublesome weed, and on barren heaths.

It flowers in May and June. There is, perhaps, scarce any plant that is quicker in ripening its seeds.

In our examination of this plant we found the egg of a very small moth glued to an unripe capsule, the seeds of which were probably destined to feed its caterpillar.





MUSEUM



Potamogeton crispum.

POTAMOGETON CRISPUM. CURLED PONDWEED, or GREATER WATER CALTROPS.

POTAMOGETON *Lin. Gen. Pl.* TETRANDRIA TETRAGYNIA.

Cal. 0. *Petala* 4. *Stylus* 0. *Sem.* 4.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO
POTIUS.

POTAMOGETON *crispum* foliis lanceolatis alternis oppositifve undulatis serratis. *Lin. Syst. Vegetab.*
p. 141. *Sp. Pl.* p. 183. *Fl. Suec.* n. 148.

POTAMOGETON. *Hall. Hist.* n. 848.

POTAMOGETON *crispum.* *Scopoli Fl. Carn.* n. 181.

POTAMOGETON foliis crispis feu lactuca ranarum, *Baub.* p. 465.

POTAMOGETON feu fontinalis crispa. *I. B. III.* p. 778.

TRIBULUS aquaticus minor *Quercus floribus.* *Ger. em.* 1282.

TRIBULUS aquaticus minor prior. *Park.* 1248. *Raii Syn.* p. 149. The greater Water Caltrops,
Hudjon Fl. Angl. p. 75. *Lightfoot Fl. Scot.* p. 122..

RADIX perennis, repens.

CAULES plurimi, variae longitudinis, fordide carnei,
subdiaphani, compressi, utrinque sulcati, ramosi.

VAGINÆ breves, concolores, vix distinguendæ.

FOLIA sessilia, lanceolata, obtusa, subdiaphana, crispa,
scariofa, nitida, trinervia, ferrulata, inferiori-
bus alternis, superioribus oppositis.

PEDUNCULI axillares, bi feu triunciales, crassiusculi,
subcompressi.

FLORES spicati, sex five octo, sessiles.

CALYX nullus.

COROLLA: PETALA quatuor, subrotunda, obtusa,
concava, unguiculata, primo erecta, dein pa-
tentia, decidua, e fusco viridia, *fig. 1.*

STAMINA: FILAMENTA quatuor, brevissima, vix dis-
tinguenda. ANTHERÆ breves, didymæ, albæ,
fig. 2.

PISTILLUM: GERMINA quatuor, ovato-acuminata.
STYLUS nullus. STIGMATA obtusa, *fig. 3.*

SEMINA quatuor, nuda, majuscula, fordide virentia,
utrinque compressa, externe ad basin denticu-
lata, *fig. 4.*

ROOT perennial and creeping.

STALKS numerous, of various lengths, of a dirty flesh-
colour, somewhat transparent, flattened, with
a groove on each side, and branched.

SHEATHS short, of the same colour as the stalks,
scarcely to be distinguished.

LEAVES sessile; lanceolate, obtuse, somewhat transpa-
rent, curled, sonorous to the touch, shining,
three-ribbed, sharply and finely serrated, the
lower ones alternate, the upper ones opposite.

GENERAL FLOWER-STALKS growing from the
axæ of the leaves, two or three inches in
length, thickish, and somewhat flattened.

FLOWERS six or eight, growing in a spike, and sessile.

CALYX wanting.

COROLLA: four PETALS, roundish, obtuse, hollow,
connected by a little claw, at first upright,
afterwards spreading and deciduous, of a
greenish brown colour, *fig. 1.*

STAMINA: four FILAMENTS, very short, scarcely to
be distinguished. ANTHERÆ short, having
two separate lobes, of a white colour, *fig. 2.*

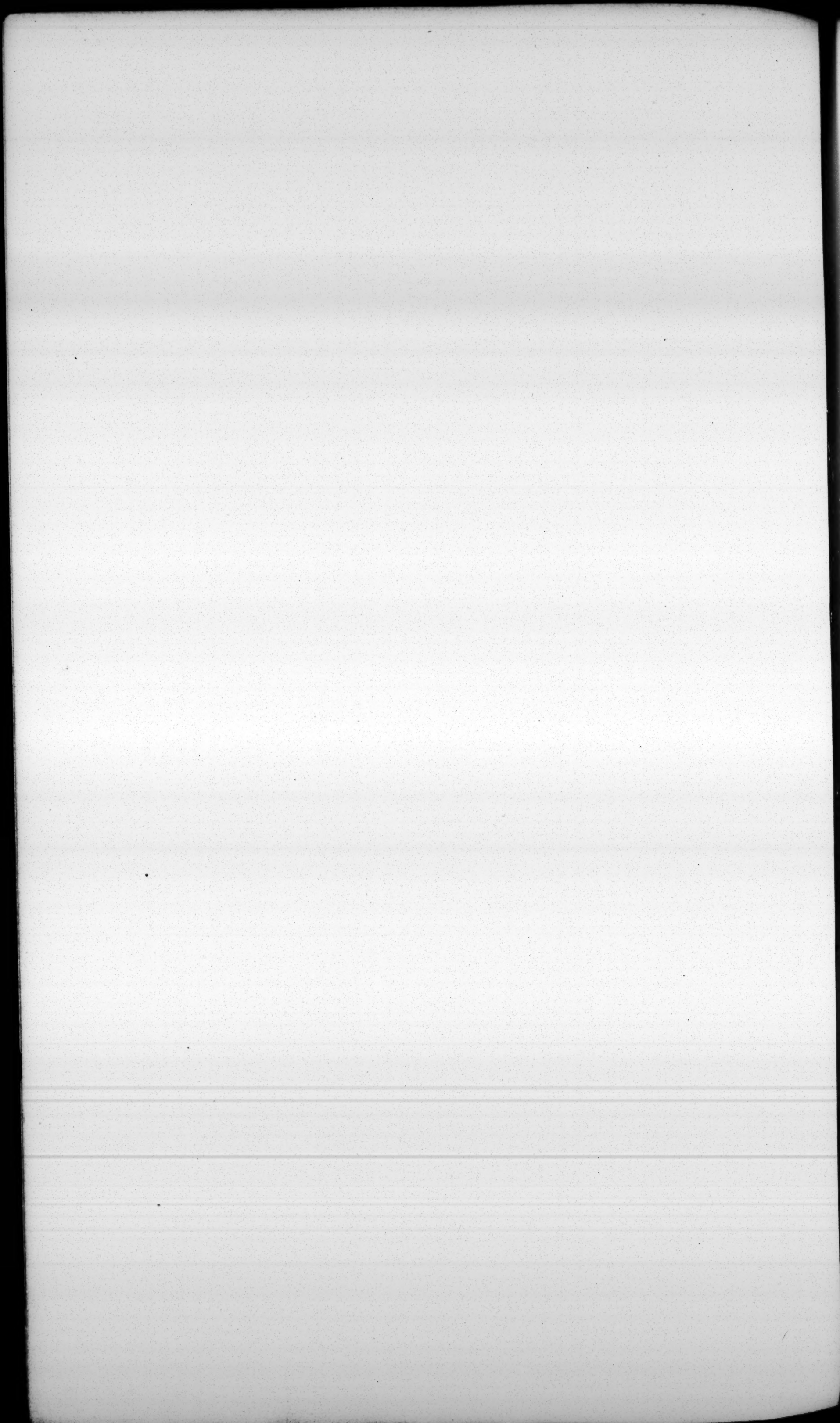
PISTILLUM: GERMINA four, ovate, with a long point.
STYLE none. STIGMATA obtuse, *fig. 3.*

SEEDS four, naked, rather large, of a dirty green, flat-
tened on each side, toothed externally at the
base, *fig. 4.*

Most of the plants of this *genus* have creeping roots, which penetrating easily through the mud, cause them to
spread very fast, so as soon to fill up a pond or slow river, if unmolested.

We have observed, that ducks very readily eat not only the seeds, but the leaves of the present species, which is
one of the most common. The introduction of water-fowl may therefore probably prevent this species at least, and
perhaps some of the others, from increasing too much.

It flowers in *June* and *July*.







MYOSOTIS SCORPIOIDES. MOUSE-EAR SCORPION-GRASS.

MYOSOTIS *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

Cal. hypocrateriformis, 5. fida, emarginata: faux clausa fornicibus.

Raii Syn. Gen. 13. HERBÆ ASPERIFOLIÆ.

MYOSOTIS *Scorpioides* feminibus lævibus, foliorum apicibus callofis. *Lin. Syst. Vegetab. Sp. Pl. p. 183.*

Fl. Suecic. n. 157.

SCORPIURUS radice longa fibrata perenni. *Hall. hist. 591.*

MYOSOTIS *Scorpioides. Scopoli. n. 185.*

ECHIUM scorpioides palustre *Baubin. pin. 254.*

MYOSOTIS scorpioides palustris. *Ger. emac, 337.*

MYOSOTIS scorpioides repens. *Park. 691. Raii Syn. p. 222. n. 4. Water Scorpion-Grass.*

Hudson. Fl. Angl. ed 2. p. 78.

Lightfoot. Fl. Scot. p. 232.

RADIX per aquam longe excurrit, et fibrillas e geniculis dimittit.

CAULIS basi repens, dein erectus, pedalis aut bipedalis, teres, solidus, ramotus, glaber, sæpe hirsutus.

FOLIA alterna, lanceolata, sessilia, subdecurrentia, glabra five hirsuta, margine sæpe revoluta.

RACEMI longi, dichotomi, divaricati, apicibus involutis.

FLORES pedunculati, secundi; pedunculis alternis, erectis.

CALYX: PERIANTHIUM monophyllum, tubulatum, quinque-dentatum, persistens. *fig. 1.*

COROLLA monopetala, hypocrateriformis, *Tubus* longitudine calycis; *Limbus* planus, femiquinquefidus, *laciniis* obtusis, submarginatis; *Faux* clausa squamulis quinque convexis, prominentibus, luteis. *fig. 2. 3. 6.*

STAMINA: FILAMENTA quinque in collo tubi, brevissima: ANTHERÆ oblongæ, flavæ, apicibus tumidis, testæ. *fig. 4.*

PISTILLUM: GERMINA quatuor; STYLUS filiformis, longitudine tubi corollæ; STIGMA obtusum.

PERICARPIUM nullum, *Calyx* femina in sinu fovens.

SEMINA quatuor, ovata, glabra, nigri cantia, nitida. *fig. 5.*

ROOT runs out to a great length through the water, and send down fibres from the joints.

STALK creeping at bottom, afterwards upright, from one to two feet high, round, solid, branched, smooth, but often hairy.

LEAVES alternate, lanceolate, sessile, slightly decurrent, smooth or hirsute, the edge often roll'd back.

RACEMI long, dichotomous; divaricating, the tops roll'd in.

FLOWERS standing on footstalks and growing all one way; footstalks alternate and upright.

CALYX: a PERIANTHIUM of one leaf, tubular, having five teeth and permanent. *fig. 1.*

COROLLA monopetalous, salver-shaped, the *Tube* the length of the calyx: the *Limb* flat, divided into five blunt segments with a slight notch in each; the mouth closed with five convex prominent yellow scales or glands. *fig. 2. 3. 6.*

STAMINA: five Filaments, very short, placed in the neck of the tube; ANTHERÆ oblong, yellow, the tips swelled, and enclosed. *fig. 4.*

PISTILLUM: GERMINA four; STYLE thread shaped, the length of the tube of the corolla; *Stigma* blunt.

SEEDVESSEL wanting, the *Calyx* containing and enclosing the seeds.

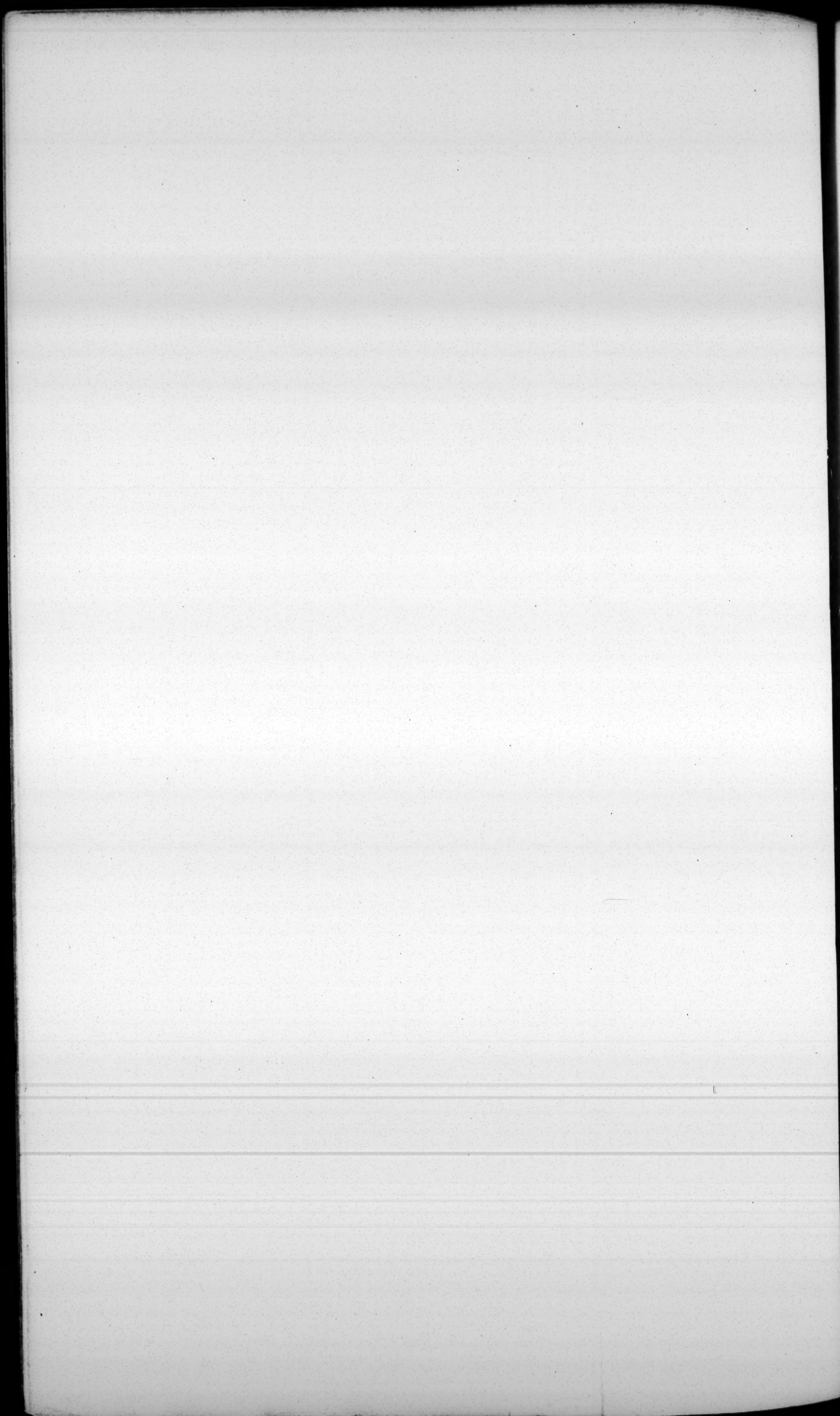
SEEDS four, oval, smooth, blackish, and shining. *fig. 5.*

Few plants assume so great a variety of appearances as the *Myosotis scorpioides*, few accommodate themselves to such a diversity of soil, and situation; the very different habit which this plant assumes in dry, and wet situations, has induced HALLER to divide it into two species, viz. annual and perennial, the aquatic one having according to him a perennial, and the other an annual root; we might perhaps be nearly as much justified in considering some others of its striking varieties as species also, particularly the one with yellow flowers and the larger flowered one figured by RAY, but as LINNÆUS and the generality of modern Botanists agree in considering them all but as one species, we rather chuse to acquiesce in their determination; should future observation or experiment give us any reason to suppose them species, we shall be very happy to do justice to the opinion of Baron HALLER.

The aquatic variety here figured grows very commonly in wet ditches and rivulets, its flowers especially in shady situations being much larger and more conspicuous than when growing in a dry soil are often remarked for their beauty and delicacy, they somewhat resemble blue enamel, and are a very pretty ornament for the edges of ponds.

On dry ground it usually occurs in fallow fields, and gardens but little cultivated; the variety with yellow flowers is not unfrequent on dry sandy banks, and sometimes on walls; they all flower from May to August and September.

LINNÆUS suspects its being poisonous to sheep. *vid. Stillingfleets miscel. tracts. p. 355. ed. 2.*







Cynoglossum officinale.

CYNOGLOSSUM OFFICINALE. HOUNDSTONGUE.

CYNOGLOSSUM *Lin. Gen. Pl. Pentandria Monogynia.*

Cor. infundibuliformis, fauce clausa fornicibus. *Stamina* depressa interiore tantum latere stylo affixa.

Raii Syn. Gen. 13. Herbæ asperifoliæ.

CYNOGLOSSUM *officinale* staminibus corolla brevioribus, foliis lato lanceolatis tomentosis sessilibus; *Lin. Syst. Vegetab. p. 157. Sp. Pl. p. 192. Fl. Suec. n. 58.*

CYNOGLOSSUM foliis ellipticis, lanceolatis, sericeis, caule folioso. *Haller. Hist. n. 587.*

CYNOGLOSSUM *officinale. Scopoli Fl. Carniol. 191.*

CYNOGLOSSUM majus vulgare. *Baubin. Pin. 257. Ger. emac. 804. Parkins. 511. Great Houndstongue. Raii Syn. ed. 3. p. 226. Hudson Fl. Angl. ed. 2. p. 80. Lightfoot Fl. Scot. p. 133.*

RADIX biennis, crassitie digiti seu pollicis, pedalis et ultra, fusiformis, foris nigricans, intus albida.

CAULIS bi seu tripedalis, erectus, sulcato-angulatus, villosus, foliosissimus, superne ramosus; Rami plurimi, suberecti, villosi.

FOLIA radicalia magna, pedalia et ultra, petiolata, ovata, acuta, sericea hirsutie incana, venosa, caulina, saltem superiora sessilia, conferta, sparsa, erecta, lanceolata, basi latiora.

FLORES primo sordide rubentes, demum cærulescentes, racemosi, secundi.

PEDUNCULI teretes, alterni, pubescentes.

CALYX: PERIANTHIUM quinquepartitum, foliolis ovato-lanceolatis, erectis, pubescentibus, obtusiusculis, interne nitidis. *fig. 1.*

COROLLA: monopetala, infundibuliformis; *Tubus* cylindraceus, crassus, pallidus, calyce duplo brevior; *Limbus* concavus, quinquefidus, laciniis rotundatis. *fig. 2, 3.*

NECTARIUM: *Squamæ* quinque, purpureæ, antice concaviusculæ, vertice gibbæ, obtusæ, margini tubi insertæ, limbo duplo breviores, conniventes. *fig. 4. Faux* corollæ perforata.

STAMINA: FILAMENTA quinque, brevissima; ANTHÆ oblongæ, virides, sub squamis nectaris reconditæ. *fig. 5.*

PISTILLUM: GERMINA quatuor, e luteo-virescentia, glabra; STYLUS subulatus longitudine staminum, persistens; STIGMA obtusum, emarginatum. *fig. 6.*

PERICARPIUM: CAPSULA quatuor depressæ, subrotundæ, scabræ, non dehiscentes, apice affixæ. *fig. 7.*

SEMINA solitaria, subovata, gibba, acuminata, glabra. *fig. 8.*

ROOT biennial, the thickness of the finger or thumb, a foot or more in length, tapering, blackish on the outside, and whitish within.

STALK two or three feet in height, upright, grooved or angular, villous, very leafy, branched at top; *Branches* numerous, nearly upright and villous.

LEAVES proceeding from the root large, a foot or more in length, standing on footstalks, ovate, pointed, covered with a silky down which gives them a greyish colour, veiny; those of the stalk at least the uppermost ones sessile, numerous, placed irregularly on the stalk, upright, lanceolate, and broadest at the base.

FLOWERS at first of a dull red colour, afterwards becoming blueish, growing in racemi or long bunches, and hanging all one way.

RACEMI nearly upright, and generally naked.

FLOWER-STALKS round, alternate, and downy.

CALYX: PERIANTHIUM deeply divided into five segments, the leaves ovato-lanceolate, upright, downy, bluntish, shining on the inside. *fig. 1.*

COROLLA monopetalous, funnel-shaped, *Tube* cylindrical, thick, of a pale colour, half the length of the calyx. *Limb* concave, divided into five roundish segments. *fig. 2, 3.*

NECTARY: five purple *Scales*, anteriorly hollow, gibbous at top, blunt, inserted into the edge of the tube, half the length of the limb, closing together. *fig. 4. Mouth* of the corolla perforated.

STAMINA: five FILAMENTS, very short. ANTHÆ oblong, green, hid under the scaly nectaries. *fig. 5.*

PISTILLUM: GERMINA four, of a yellowish green colour, smooth. STYLE tapering, the length of the stamina, permanent. STIGMA blunt and nicked. *fig. 6.*

SEED-VESEL: four flat CAPSULES of a roundish shape, somewhat prickly, not opening, fixed by their points. *fig. 7.*

SEEDS single, somewhat ovate, gibbous, pointed and smooth. *fig. 8.*

The leaves of this plant are in shape thought to resemble a Dog's-tongue, whence its name.

It grows wild by road sides, and in uncultivated places; and is particularly common about *Charlton*, and in the road to *Lewisham*.

It flowers in *June* and *July*, and ripens its seeds in *August* and *September*.

The whole plant has a disagreeable smell, much resembling that of mice. Its effects are said to be narcotic; and an instance is related in the *Hist. Oxon. 3. 450**, in which the leaves boiled by mistake for those of Comfrey, disordered a whole family, and proved fatal to one. *EARON HALLER* quotes *Dr. BLAIR* as describing a case somewhat similar; but in that instance the plant used was not the *Cynoglossum*, but the *Pulmonaria maritima*†; a plant one would not suspect of being poisonous.

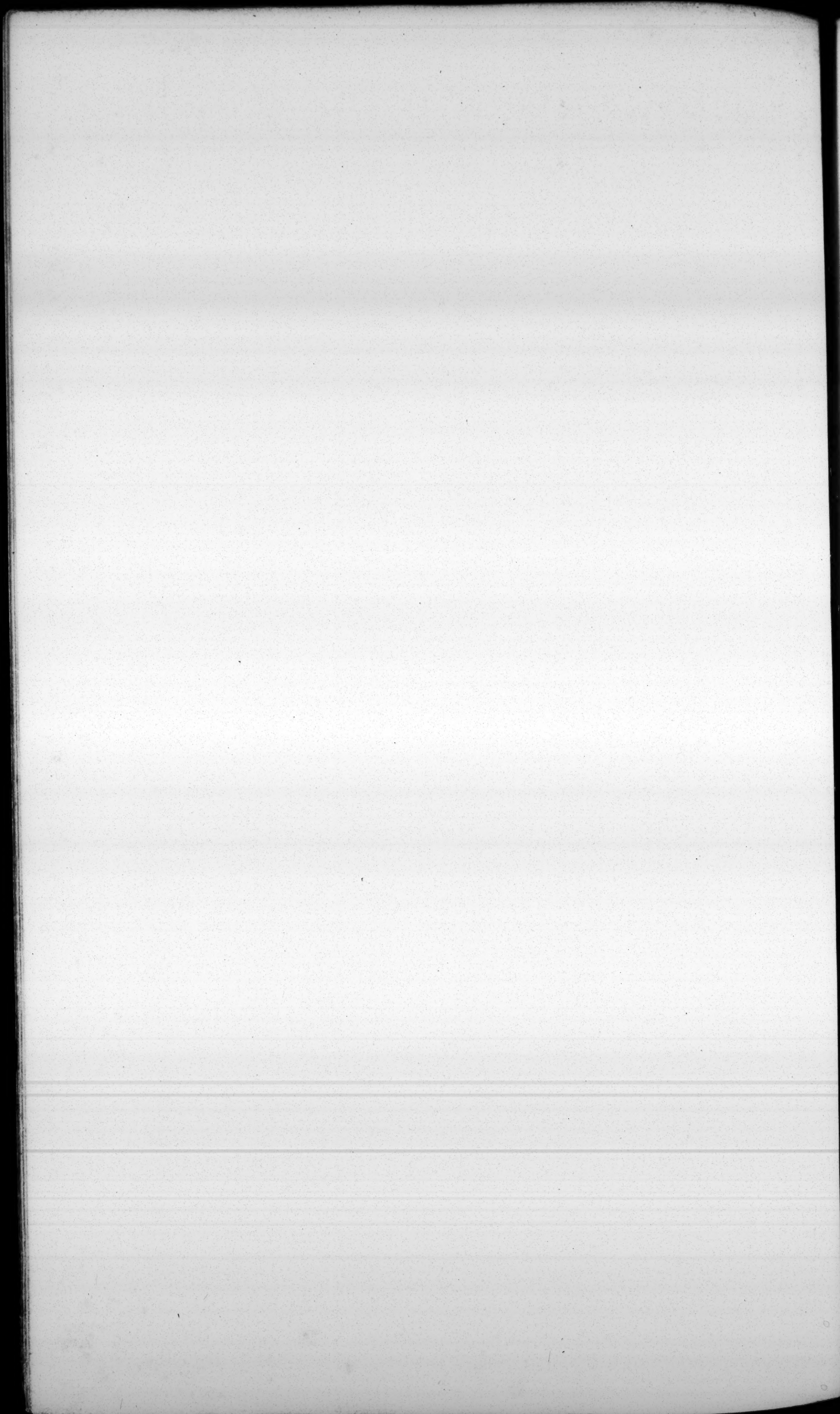
Houndstongue has been used in medicine both internally and externally; but the present practice takes no notice of it in any intention.

Cattle in general dislike it; but the Goat, who with impunity will eat Deadly Nightshade and Tobacco, is said sometimes to crop this nauseous plant; it is the natural food of the caterpillar of the scarlet tyger-moth (*Phalena Dommula*) which may be found on it in April and May.

The *Cynoglossum minus folio virente* *Ger. emac. 805*, is considered by *LINNÆUS* merely as a variety of this plant, and described by *RAY* as growing in the *London* road between *Kelvedon* and *Witbam* in *Essex*, but more plentifully about *Braxsted* by the way sides. It has also been observed in some shady lanes about *Worcester* by *Mr. Pitts*; at *Southend*, by *Eltham*, plentifully, *Mr. J. Sherard*; by the road side, about a mile beyond *Waltham-abbey*, towards *Harlow*, *Mr. Newton*; At *Norbury* in *Surrey*, a mile from *Leatherhead*, plentifully. *Merr. Pin.*

* "Mulier quædam Oxoniensis, et maritus cum liberis, et quotquot erant istius familiæ, folia Cynoglossi (pro tenellis Symphyti foliis collecta) cocta, libere comedebant; et prandio mox omnes ægrè se habebant, et non multo post vomitus molestus insequabatur, deinde stupore et somno correpti sunt, nec post horas fere 40 penitus excitati; unus autem mortuus est."

† *Blair's Miscellaneous Observations, p. 55.*







Pulmonaria maritima

Scand. ad. F. S. 1700. 1701.

PULMONARIA MARITIMA. SEA LUNGWORT.

PULMONARIA. Linn. Gen. Pl. PENTANDRIA MONOGYNIA.

Cor. infundibuliformis fauce pervia. Cal. prismatico 5-gonus.

Raii Syn. Gen. 13. HERBÆ ASPERIFOLIE.

PULMONARIA *maritima* calycibus abbreviatis, foliis ovatis caule ramoso procumbente. Linn. Syst. Vegetab. ed. 14. Murr. p. 187. Sp. Pl. ed. 3. p. 195. Hudf. Fl. Angl. ed. 2. p. 81. Lighf. Scot. v. 1. p. 134. t. 7. Fl. Dan. t. 25.

CERINTHE *maritima* procumbens. Dill. Herb. Elth. t. 65.

CYNOGLOSSUM procumbens glaucophyllum maritimum nostras, floribus purpureo cæruleis, feminibus lævibus. Pluk. Alm. p. 126. t. 172. f. 3.

CYNOGLOSSUM perenne maritimum procumbens. Morif. Hist. 3. p. 450. f. 11. t. 28. f. 12.

ECHIUM *marinum* P. B. Cat. Ang. Sibb. Sc. Ill. P. II. L. 3. p. 55. Tab. 12. Raii Syn. Ed. 3. p. 228. Sea Bugloss.

BUGLOSSUM dulce ex Insulis Lancastriæ. Lancashire Bugloss. Park. Tb. p. 767. t. 766. f. 5.

RADIX perennis, lignosa, nigricans.

CAULES plures, procumbentes, pedales et ultra, teretiusculi, foliosi, superne ramosi.

FOLIA numerosa, sparsa, sessilia, obovata, acuta, basi angustata, integerrima, subtus nervosa, undulata, apicibus sæpius recurvis, superne punctis prominulis exasperata.

PEDUNCULI teretes, ad flores subincrassati, verruculosi.

CALYX: PERIANTHIUM pentaphyllum, persilens, foliolis ovatis, acutis, integerrimis, carinatis, fig. 1.

COROLLA monopetala, infundibuliformis, infra medium coarctata, quasi vincula ligata fuisset; Tubus brevis, latus, longitudine calycis; Limbus quinquefidus laciniis reflexis, faux pervia, gibbis quinque intrusis lutescentibus, fig. 2.

STAMINA: FILAMENTA quinque, fundo corollæ inserta, subulata, convergentia, tubo corollæ paulo longiora; ANTHERÆ oblongæ, luteæ, incumbentes, fig. 3.

PISTILLUM: GERMINA quatuor; STYLUS filiformis, longitudine flaminum; STIGMA simplex, fig. 4.

PERICARPIUM nullum.

SEMINA quatuor, comiventia, trigona, acuta, lateri exteriori convexa, interioribus planis, fig. 5.

ROOT perennial, woody, of a blackish colour.

STALKS numerous, procumbent, a foot or more in length, nearly round, leafy, branched above.

LEAVES numerous, placed without order, sessile, obovate, pointed, narrowed at the base, perfectly entire, ribbed on the under side, waved, the point most commonly bent back, the upper surface rough with fine prominent points.

PEDUNCLES round, a little thickened next the flowers, and somewhat warty.

CALYX: a PERIANTHIUM of five leaves, continuing, leaves ovate, pointed, perfectly entire, and keeled, fig. 1.

COROLLA monopetalous, funnel-shaped, contracted below the middle, as if it had been tied round with a ligature; Tube short, wide, the length of the calyx; Brim divided into five segments, which are bent back, the throat open, with five yellowish tubercles, fig. 2.

STAMINA: five FILAMENTS, inserted into the bottom of the corolla, converging, a little longer than the tube of the corolla; ANTHERÆ oblong, yellow, incumbent, fig. 3.

PISTILLUM: GERMINA four; STYLE filiform, the length of the stamina; STIGMA simple, fig. 4.

SEED-VESSEL none.

SEEDS four, closing together, three-cornered, pointed, the outer side convex, the two innermost flat, fig. 5.

The *Pulmonaria maritima* is found abundantly on many parts of our sea-coasts, yet not generally; like the *Crambe maritima*, it has its local attachments*.

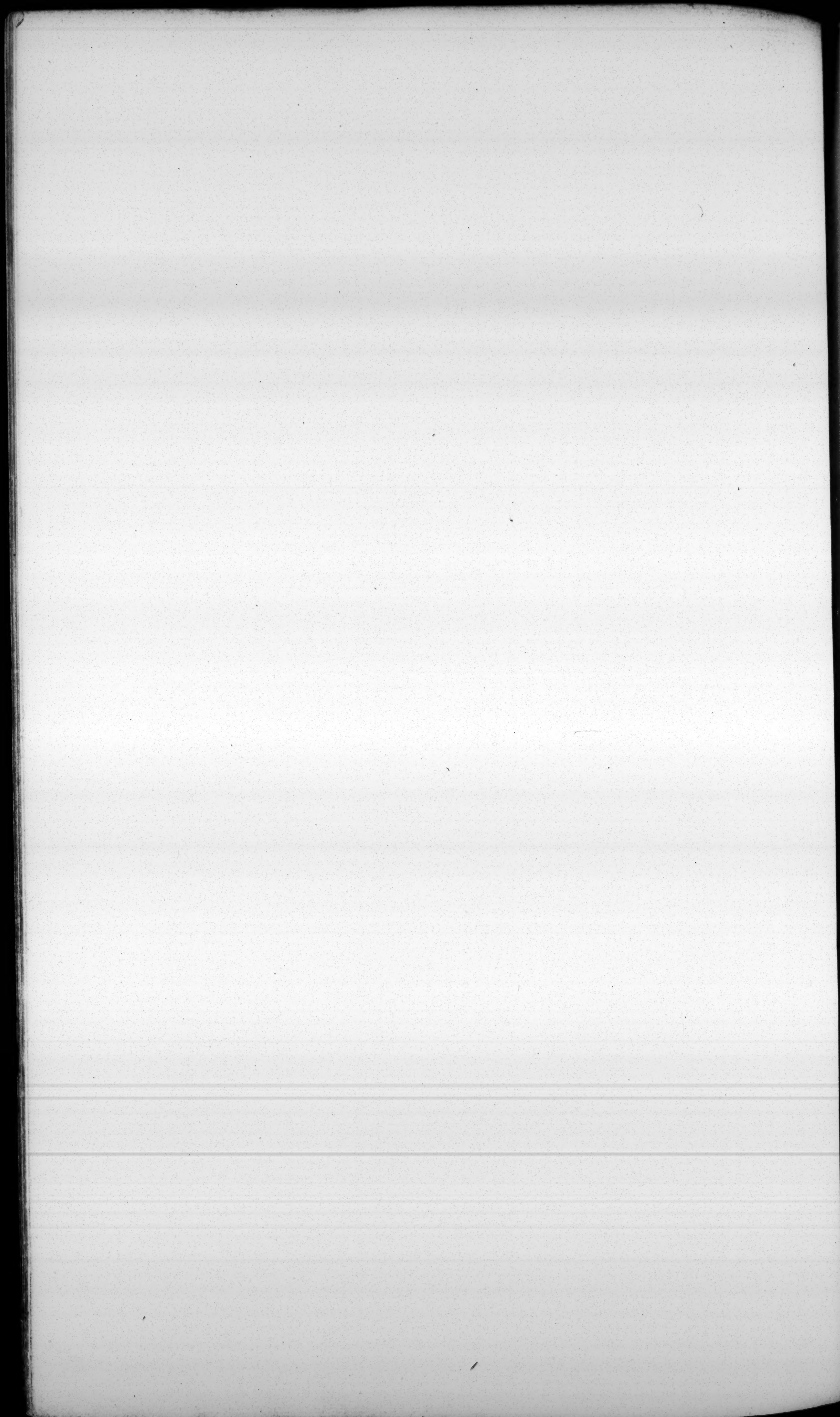
Its roots, which are perennial, strike deeply into the sand, or among the pebbles, and it is probable that by this means the plant may be preserved in very severe seasons; Mr. LIGHTFOOT regards it as one of the most beautiful of our British plants, such it undoubtedly is, and on that account highly deserving of culture; yet we rarely find it in the gardens of the curious, and this we attribute to its culture not being well understood; we have taken much pains to have this plant in perfection, and, having succeeded, recommend the following mode.

If your plant has been taken proper care of, it will produce abundance of seeds, most of which will be ripe by the end of August; gather them as they ripen, for if you stay till those from the last-blown flowers are fit, those from the first will have fallen out of the flower-cups; sow them either early in September or the ensuing February, in a pot of earth composed of three parts sea sand (or, in lieu thereof, common sand) and one part rotten cow dung, finely sifted; in about six weeks or two months from the February sowing these seeds will vegetate, and in the Autumn the plants will be fit to transplant into separate pots, and most of them will flower the ensuing year; snails and slugs are uncommonly fond of this plant: if you, therefore, plant it in the open border, it will in all probability be destroyed; for these animals not only devour the plant when fully green, but eat out the buds on their first appearance; so that you lose your plants without knowing the cause: having them in pots, you can guard them better from their ravages; set them with your green-house plants, and treat them as such, they will not disgrace your collection; water them over the leaves as little as may be, for the water is apt to settle on them in drops, and to leave marks which greatly disfigure them.

RAY refers to PARKINSON's figure of this plant with a query; though a very rude one, it is undoubtedly intended for it; of the several figures published since, that of DILLENIUS is certainly the best, though deficient in expressing its habit.

From the appearance of the foliage, one would not be induced to place it with the *asperifolia*; a magnifying glass, however, shews on many parts of it a manifest roughness; much less would we suspect that poison lurked under such an elegant form, yet the respectable testimony of Dr. BLAIR fully confirms it; the following account is taken from his *Miscellaneous Observations*, p. 55.—“I am credibly informed by a gentleman not far from hence, that in the late famine, one of his farmers being straitened for bread, taking this plant for Colewort (to which it is not unlike in colour) ordered to boil a dish of it, and gave it to his wife and children, with the servants in his family; all of them became very sick, some vomited excessively, others slept two or three days without intermission, and one or two of them died.”

* Mentioned by RAY as growing at *Scrammerston-Mill*, between the *Salt-Pans* and *Berwick*, on the sea beach, about a mile and a half from *Berwick*; also near *Whitehaven* in *Cumberland*, and against *Bigger* in the *Isle of Walney* in *Lancashire*, plentifully, Mr. LAWSON; (near *Trefartney* in *Anglesea*, and in abundance by the river *Uyfi* in the way from *Dinard* to *Clynog* in *Carnarvonshire*, Mr. LLWYD;) in several places along the south side of the *Firth of Forth*, Dr. SIBBALD; on the sea-coast of Scotland not unfrequently, growing out of stony beaches which seem incapable of affording vegetation, as on the coast of *Fife*, near *St. Andrews*, &c. in the *Isle of Bute*, upon a sandy shore in *Arran*, at *Loch Ranja*, and at *Lamlash*, at *Icolumbkil*, and at *Glennelg* in *Invernesshire*, LIGHTFOOT Scot. at the ferry on the sea shore near *Inverness*, in great plenty, Mr. DICKSON.







Symphytum officinale.

SYMPHYTUM OFFICINALE. COMFREY.

SYMPHYTUM *Lin. Gen. Pl. PENTANDRIA MONOGYNIA.*

Corollæ limbus tubulato ventricosus : fauce clausa radiis subulatis.

Raii Syn. Gen. 13. HERBÆ ASPERIFOLIÆ.

SYMPHYTUM *officinale* foliis ovato-lanceolatis decurrentibus. *Lin. Syst. Vegetab. p. 158. Sp. Pl. 195. Fl. Succ. n. 165.*

SYMPHYTUM *Haller. Hist. n. 600.*

SYMPHYTUM *Scopoli Fl. Carn. n. 195.*

SYMPHYTUM *Consolida major. Baub. pin. 259.*

CONSOLIDA *major. Gerard emac. 806.*

SYMPHYTUM *majus vulgare. Parkinson 523. Raii Syn. p. 230. Comfrey. Hudson. Fl. Angl. ed. 2. p. 81. Lightfoot Fl. Scot. p. 134.*

RADIX	perennis, magna, ramosa, extus nigricans, intus alba, subdulcenti-insipida, succo tenaci glutinoso abundans.	ROOT	perennial, large, branched, on the outside blackish, white within, maukish, abounding with a slimy juice.
CAULIS	bipedalis, erectus, ramosus, teres, subangulatus, scaber; pube rigida, recurva.	STALK	about two feet high, upright, branched, round, yet slightly angular, rough; the hairs rigid and bending backwards.
FOLIA	alterna, inferne petiolata, superne sessilia, decurrentia, ovata, acuta, spithamæa, etiam pedalia, parum rugosa, venosa, utrinque scabra, margine subundulata, ciliata.	LEAVES	alternate, the lower ones standing on footstalks, the upper ones sessile, decurrent, ovate, pointed, seven inches, or even a foot in length, somewhat wrinkly, veined, rough on both sides, the edges slightly waved, and fringed with hairs.
FLORES	ex albo-lutescentes, raro purpurei, cernui, racemosi, racemis plerumque geminis, involutis, multifloris.	FLOWERS	of a yellowish white colour, rarely purple, drooping, placed on racemi or branches, which usually grow two together, turn spirally inwards, and support many flowers.
PEDUNCULI	racemorum & florum teretes, hirsuti.	PEDUNCLES	both of the racemi and flowers, round and very hairy.
CALYX: PERIANTHIUM	monophyllum, villosum, profunde quinquefidum: laciniis lanceolatis acutis, carinatis, erectis. <i>fig. 1.</i>	CALYX	: a PERIANTHIUM of one leaf, hairy, deeply divided into five segments, which are lanceolate, keel'd and upright. <i>fig. 1.</i>
COROLLA	infundibuliformis, ex luteo-alba, decidua; <i>Tubus</i> crassus, longitudine calycis, apice extus notatus punctis quinque depressis, <i>fig. 2</i> ; <i>limbus</i> ovatus, e tubo sensim ampliato, minutim quinquefidus, laciniis brevibus, rotundatis, revolutis; <i>faux</i> clausa: squamis nectareis quinque lanceolatis, acutis, margine crassis, serrulato-dentatis, conniventibus, corollâ brevioribus. <i>fig. 4, 5.</i>	COROLLA	funnel-shaped, of a yellowish white colour, deciduous; the <i>tube</i> thick, the length of the calyx, marked externally at the top with five small depressions; <i>fig. 2.</i> the <i>limb</i> ovate from the gradual widening of the tube, divided into five short roundish segments, which are rolled back; the <i>mouth</i> closed with five long and pointed nectaries, thick at the edge, with numerous teeth-like points, closing at top, shorter than the corolla. <i>fig. 4, 5.</i>
STAMINA: FILAMENTA	quinque, lanceolata, alba, breviuscula; ANTHERÆ oblongæ, apice et basi bifidæ, lutescentes, erectæ, sub squamis nectareis occultatæ. <i>fig. 3.</i>	STAMINA	: five, lanceolate, white, shortish FILAMENTS; ANTHERÆ oblong, bifid both at top and at bottom, of a yellowish colour, upright, hid by the nectaries. <i>fig. 3.</i>
PISTILLUM: GERMEN	quadrupartitum: lobis subrotundis, obtusis, viridibus; STYLUS subulatus, albus, inter lobos germinis surgens, corollâ paulo longior, apice obliquus; STIGMA parvum, obtusum. <i>fig. 6.</i>	PISTILLUM	: GERMEN divided into four lobes, which are roundish, blunt and green; STYLE tapering, white, arising from the middle betwixt the lobes, a little longer than the corolla, with a small obliquity at top; STIGMA small and blunt. <i>fig. 6.</i>
SEMINA	quatuor in fundo calycis, majuscula, angulata, nigricantia, nitida. <i>fig. 7.</i>	SEEDS	four, in the bottom of the calyx, largish, angular, blackish and shining. <i>fig. 7.</i>

The *Comfrey* is a very common plant by river sides, on the edges of wet ditches, and in other moist situations; it flowers from June to September.

Its blossoms are for the most part of a yellowish white colour, but in some parts of *England*, and abroad, they are more commonly purple.

As a medicinal plant the *Comfrey* has been held in high estimation, its consolidating virtues have however been carried to a ridiculous excess; the roots, which are full of a glutinous juice, agree in quality with the roots of Marsh-mallow, and hence are recommended, internally, in spittings of blood, purgings, fluxes, and ulcers of the bladder; externally, by way of poultice to fresh wounds, fractured bones, bad ulcers, bruises, gouty swellings, &c.

A decoction of the powdered root, prepared in a particular manner, yields a fine scarlet colour. *HELLOR teinture, p. 357.*

It is generally left untouched by cattle. I know of no plant, that on being repeatedly cut down, produces such a quantity of herbage.





Lycopsis arvensis

LYCOPSIS ARVENSIS. FIELD, or SMALL WILD BUGLOSS.

LYCOPSIS *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.
Corolla tubo incurvato.

Raii Syn. Gen. 13. HERBÆ ASPERIFOLIÆ.

LYCOPSIS *arvensis* foliis lanceolatis hispidis, calycibus florescentibus erectis. *Lin. Syst. Vegetab.* p. 160. *Sp. Pl.* p. 199. *Fl. Suec. n.* 167. *Fl. Lappo*n 77.

LYCOPSIS foliis asperimis, undulatis, ferratis, linguiformibus. *Hall. hist.* 605.

ECHIUM Fuchii seu Borrage sylvestris. *I. B.* III. 581.

BUGLOSSUM sylvestre minus. *Bauh. pin.* 256. *Parkin.* 765. *Dillen. Nov. Gen. Tab.* 3.

BUGLOSSA sylvestris minor. *Ger. emac.* 799. *Raii Syn.* p. 227. *Hudson. Fl. Angl.* p. 82.
Lightfoot Fl. Scot. p. 135.

RADIX annua, simplex, fibrosa, albida.

ROOT annual, simple, fibrous, and whitish.

CAULIS pedalis, et ultra, erectus, subangulosus, hispidus, plerumque superne tantum ramosus.

STALK a foot or more in height, upright, slightly angular, hispid, for the most part branched at top only.

FOLIA alterna, sessilia, lanceolata, obtusiuscula, papilloso-hispida, subtus pallidiora, avenia, margine undulata, subrevoluta.

LEAVES alternate, sessile, lanceolate, bluntish, hispid, hairs issuing from small papillæ, palest on the under side, veinless, waved at the edge, and slightly rolled back.

FLORES cærulei, spicati, secundi, sessiles, deorsum spectantes.

FLOWERS blue, growing in spikes, all one way, sessile, and turned backward.

BRACTEÆ foliis subfimiles.

FLORAL-LEAVES somewhat like the leaves themselves.

CALYX: PERIANTHIUM, quinquepartitum, hispidum, persistens, laciniis oblongis, acutis, longitudine fere corollæ.

CALYX: a PERIANTHIUM deeply divided into five segments, hispid, and permanent; the segments oblong, pointed, and almost the length of the corolla.

COROLLA monopetala, infundibuliformis; *tubus* cylindraceus, curvato-flexus, *fig. 2.* *limbus* semiquinquefidus, obtusus; *faux* clausa squamulis quinque, pilosis, albis, *fig. 3.*

COROLLA monopetalous, funnel-shaped; *tube* cylindrical, crooked, *fig. 2.* *limb* slightly divided into five segments, obtuse; *mouth* closed by five, small, white, hairy scales, *fig. 3.*

STAMINA: FILAMENTA quinque, minima, ad flexuram tubi corollæ; ANTHERÆ parvæ, fuscæ, *fig. 4.*

STAMINA: five FILAMENTS, very minute, at the curvature of the tube of the corolla; ANTHERÆ small and brown, *fig. 4.*

PISTILLUM: GERMINA quatuor, viridia, glabra; STYLUS filiformis, longitudine flaminum; STIGMA obtusum, subbifidum, *fig. 5.*

PISTILLUM: GERMINA four, green and smooth; STYLE filiform, the length of the flamina; STIGMA obtuse and slightly bifid, *fig. 5.*

PERICARPIUM nullum, *Calyx* sinu femina fovens, maximus, laciniis conniventibus donec femina nigrescant deinde patentibus.

SEED-VESSEL none, the *Calyx* which contains the seed in its bosom, is very large, closing together till the seeds grow black, and then spreading.

SEMINA quatuor, majuscula, nigri cantia, reticulato-rugosa, acutiuscula, *fig. 6.*

SEEDS four, largish, nearly black, with a reticulated or wrinkly surface, and a little pointed, *fig. 6.*

RECEPTACULUM punctis quatuor fuscis excavatis notatum.

RECEPTACLE marked with four round dots, hollowed out.

The *Lycopsis Arvensis* is a very common plant in the corn fields, especially such as are sandy, and on dry banks, in the neighbourhood of London. We have sometimes seen it so plentiful as to be highly injurious to the husbandman: it may be found in blossom from May to July.

The following account of the medicinal virtues of this plant appeared lately in most of our newspapers: without vouching for the truth of the report, we have thought it our duty to lay it before our readers, with a sincere wish that the herb may prove as efficacious in its application, as is here represented.

"The celebrated M. JEAN FONTANA, Member of the learned academy of Turin, has lately published, for the general good of suffering mankind, a specific remedy against the ANTHRAX, or corrosive ulcer, otherwise called Carbuncle, or Plague-Sore. The curative prescription was communicated to him by the person who has administered it for many years to patients of that description, and with constant success. It consists simply in the use of a field-plant, called by Linnæus, LYCOPSIS ARVENSIS. Bruise and pound the plant; lay it on the tumour; fix it there by means of a bandage, and do not touch it before it hath remained twenty-four hours. During the first six or seven hours, the patient will feel a painful and burning heat in the part. It often happens that on taking off the first apparel, the slough gets loose and discovers a wound, which heals in a few days, by applying to it a plaster of the unguent called *Basilicon*. If the case should be otherwise, the first method of cure must be repeated. This second application of the bruised plant, which will not occasion above two hours pain to the patient, will be fully sufficient to remove the slough, and then the use of the above plaster effects a speedy and radical cure."





PRIMULA ACAULIS. PRIMROSE.

PRIMULA. Linn. Gen. Pl. PENTANDRIA MONOGYNIA.

Involucr. Umbellulæ. Corollæ tubus cylindricus: ore patulo.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

PRIMULA *acaulis* foliis rugosis, dentatis, subtus hirsutis; scapis unifloris. Jacq. Misc. Austr. p. 158.

PRIMULA *vulgaris* foliis dentatis rugosis scapo subunifloro, limbo corollæ plano. Hudf. Fl. Angl. ed. 2. p. 83.

PRIMULA foliis dentatis rugosis pedunculis radicalibus unifloris, limbo corollarum plano. Kram. Elench. p. 42.

PRIMULA *veris* var. γ *acaulis*, scapo nullo. Linn. Sp. Pl. p. 204. Syst. Vegetab. ed. 14. Murr. p. 192. Fl. Suec. 171.

PRIMULA *sylvestris*. Scopoli Fl. Carn. n. 204.

PRIMULA foliis hirsutis, rugosis, dentatis; scapis unifloris. Haller Hist. n. 608.

VERBASCULUM sylvarum majus singulari flore. Baub. Pin. 241.

PRIMULA *veris* pallido flore humilis. Chuf. Hist. p. 302.

PRIMULA *veris* minor. Ger. Herb. 636.

PRIMULA *veris* vulgaris. Park. Tb. p. 535. Raii Syn. p. 284. Common Primrose.

RADIX perennis, obliqua, præmorsa, squamis crassis rubentibus a foliis præteritis relictis obtecta; emittens fibras copiosas, prælongas, teretes, alidas. Odor singularis fere anisi.

CAULIS nullus.

FOLIA subpalmaria, erectiuscula, oblongo-ovata, basi attenuata, obtusa, venosa, rugosa, supra lævia, subtus hirsuta, margine parum revoluta, leviter undulata, inæqualiter crenata; costa albida, in petiolum canaliculatum carinatum rubentem definente.

STIPULÆ subunciales, acuminatæ, ad basin pedunculorum.

FLORES erecti, numerosi, pallide sulphurei, majusculi, suaveolentes.

PEDUNCULI erecti, foliis paulo breviores, uniflori, teretes, hirsuti, pallide virentes, ex ipsa radice progredientes, post florescentiam deflexi.

CALYX: PERIANTHIUM 1-phyllum, persistens, oblongum, tubulosum, plicato-pentagonum, pilosum, 5-dentatum, dentibus acuminatis, apice inflexis, fig. 1.

COROLLA monopetala, tubulosa; *tubus* cylindraceus, calyce longior, striatus, nitidus, *limbus* quinquepartitus, patens, laciniis obcordatis, emarginatis, basi macula stellæformi flava notatis; faux obsolete coronata, fig. 2.

STAMINA: FILAMENTA 5, brevissima, intra tubum corollæ, fig. 4. aut ad faucem ejus posita, fig. 3. ANTHERÆ erectæ, oblongæ, flavæ, subtrigonæ, fig. 5. conniventes.

PISTILLUM: GERMEN superum, subglobosum, glabrum, fig. 6. STYLUS filiformis, tubo plerumque brevior, fig. 7. STIGMA globosum, fig. 8.

ROOT perennial, oblique, stumped at the extremity, beset with thick reddish scales, the remains of the past leaves, sending down numerous, very long, round, whitish fibres; its smell singular, somewhat like that of anise.

STALK none.

LEAVES about a hand's breath in length, nearly upright, oblong-ovate, tapering to the base, blunt, veiny, wrinkled, smooth above, hirsute beneath, the edge slightly rolled back, slightly waved, unequally notched, the midrib whitish, terminating in a footstalk of a reddish colour, hollow on one side, and keeled on the other.

STIPULÆ about an inch in length, long-pointed, at the base of the flower-stalks.

FLOWERS upright, numerous, of a pale sulphur colour, rather large and sweet-scented.

FLOWER-STALKS upright, a little shorter than the leaves, one-flowered, round, hirsute, of a pale green colour, proceeding from the root itself, after the flowering is over, bending back.

CALYX: a PERIANTHIUM of one leaf, permanent, oblong, tubular, folded, and forming five angles, hairy, 5-toothed, teeth long-pointed, bending in at the tip, fig. 1.

COROLLA monopetalous, tubular; the *tube* cylindrical, longer than the calyx, striated, and glossy; *limb* quinquepartite, spreading, the segments obcordate, emarginate, marked at the base with a star-shaped yellow spot, the mouth marked with a faint rim, fig. 2.

STAMINA: five FILAMENTS, very short, placed either within the tube of the corolla, fig. 4. or at its mouth, fig. 3. ANTHERÆ upright, oblong, yellow, somewhat three-corner'd, fig. 5. closing together.

PISTILLUM: GERMEN above the base of the calyx, nearly globular, smooth, fig. 6. STYLE filiform, usually shorter than the tube, fig. 7. STIGMA round, fig. 8.

Primula veris appears to have been a kind of general, or generic name given by many of the ancient Botanists to the *Primrose*, *Cowslip*, and *Oxlip*; yet is most applicable to the *Primrose*, as a flower of the spring; they regarded these plants as so many distinct species, and such they were in general considered till LINNÆUS ventured to maintain a contrary opinion, an opinion which comparatively speaking, few of his followers have acquiesced in: partial as we are to the transcendent merits of that great man, we cannot agree with him in this instance, without destroying, as we apprehend, all limits of specific distinction.

The most striking character of the *Primrose* consists in its mode of flowering, each blossom growing on a single peduncle, which springs from the root; LINNÆUS asserts that the peduncles spring from a scapus, as in the *Cowslip*, though it be so short as not to appear above ground, and from this circumstance principally, he maintains that the *Primrose* is only a variety; or, in other words, that the *Primrose*, the *Cowslip*, and the *Oxlip* are one and the same species.

We will not deny the existence of such a stalk as LINNÆUS describes; in examining a vast number of these plants, we have found it in a few, but it certainly is not general in the wild plant; we are ready, however, to admit more than the existence of this short scapus; the plant when cultivated will sometimes throw up a stalk similar to that of the *Polyanthus*, and of this my very good friend Dr. BUXTON, of Greenwich, has favoured me with a striking instance; *Primroses* in their wild state introduced to his Garden at Maize-Hill, a few years since, now produce flowers, both with and without a scapus, are indeed become, colour excepted, perfect *Polyanthuses*; in my own garden the white hose in hose *Primrose* produces early in the spring, flowers on peduncles, and afterwards flowers on a scapus, or, to speak in the language of the florist, flowers in a truss, but still they have the foliage and the flowers of the true *Primrose*; the *Cowslip* and the *Oxlip*, on the contrary, sometimes produce flowers on peduncles, as well as on a scapus, of which I now have also instances in my garden; but

but what do all these prove? why that the *Primula*, like most other plants, is subject to the sportings of nature, and which are no more to be regarded than the uncommon colours of a flower; the root or the stalk of a plant may be equally subject to vary as the blossom, and those who cultivate plants see frequent instances of it: I once had a daisy which became caulescent, that is, its peduncle became a stalk which threw out many peduncles bearing flowers, the terminal one of which was proliferous, but no one from such an uncommon instance would infer that the *acaulis* character of the daisy was invalidated; it is just so in my humble opinion with regard to the Primrose, in general the peduncles spring singly from the root, and in forming its specific character we must be guided by their usual and genuine appearance.

Besides the striking character drawn from the inflorescence, a very material difference is observable in other parts of the plant, betwixt it and the Cowslip at least; to say nothing of the leaves, which have been noticed by RAY in a contrasted point of view, *vid. Syn. ed. 3. p. 283.* how different is the corolla in size and shape, and how very different is the calyx?

In their natural place of growth, and time of flowering, we observe a very material difference betwixt these two plants; the Primrose loves shelter, and the light umbrage of deciduous trees, through the leafless sprays of which it may enjoy the vernal sun, and when its flowering is over, be shaded from its too potent rays by the expanding foliage; hence we find it most commonly in woods, copses, hedge-rows, at the foot of hedges, and in sheltered lanes, where it is one of the first of our plants which awakens to the genial warmth of the sun, and welcomes the returning year; if the season be mild it will flower from March to May, its highest state of bloom is with that of the *Wood Anemone*; it is also much disposed to flower in the autumn, and even during winter if the weather be not severe; the Cowslip very rarely manifests a disposition of this sort, contented once to shew its freckled bloom; instead of woods and their attendant shade, this must be sought for in open pastures, and meadows, where it courts that degree of sun which would prove fatal to the Primrose, it flowers in May with the *early spotted Orchis*. (*Orchis mascula*).

The usual colour of the Primrose blossom is pale sulphur, in some parts of the kingdom they are said to be found wild of a purple hue; to enumerate all the varieties which have sprung from accident, or culture, would afford little entertainment or instruction; suffice it to say that many of them are very ornamental, and highly deserving of our care; the following are the most striking varieties which I have yet had it in my power to cultivate, the *SINGLE white flowered*, the *paper white*, which Mr. MILLER says, without assigning any reason, is certainly a distinct species, the *red* or *purple* of various shades, the *hose in hose*; the *DOUBLE yellow*, the *deep velvet red*, the *pale red*, or *flesh-coloured*; the *white* and the *dingy purple*, called by some the *Scotch Primrose*; all these are charming ornaments for the shrubbery, the six last are plants of some value, and duplicates of them should be kept in pots, which during summer must be placed in some shady situation; in the spring the shelter of a green-house will bring them forward, and make them flower to advantage, and as they blossom very early, they will tend to enliven a collection of more rare and valuable plants.

That curious variety called by GERARD and PARKINSON *Master HESKETH'S Primrose*, we have not met with in the collections about London; we hope it may yet remain in some part of the kingdom, as it appears deserving of culture from its great singularity; it is said by PARKINSON to bear not only single flowers upon several stalks, but sometimes two or three single flowers upon one stalk, and also at the same time a bigger stalk, and somewhat higher, having one green huske at the toppe thereof, sometimes broken on the one side, and sometimes whole, in the middle whereof standeth sometimes divers single flowers thrust together, vide its fig. in his *Parad. terr.* The following is GERARD'S account of it, "There is a strange Primrose founde growing wilde, in Clapdale-Wood, near Settle, in Yorkshire, by the travel, and industry of a learned gentleman of Lancashire, called master THOMAS HESKETH, and a diligent searcher of Simples, who hath not only brought to light this amiable and pleasant kind of Primrose, but many others likewise, never before his time remembred, or founde out. This kinde of Primrose hath leaves, and rootes like the wilde fiede Primrose, in eche respect, it bringeth forth among the leaves a naked stalke of a greyish or overworne greenish colour, at the top whereof doth growe in the winter time one flower, and no more, like unto that single one of the fiede; but in the summer time it bringeth foorth a soft russet huske or hose, wherein are contained many smal flowers, sometimes fower or five and oftentimes more, very thicke thrust together, which maketh one entire flower, seeming to be one of the common double Primroses, whereas indeed it is one double flower made of a number of smal single flowers, never ceasing to beare flowers winter nor summer as before is specified."

While we are thus describing the varieties to which this plant is subject, it may not be amiss to observe that the stamina also vary greatly in their situation, being sometimes found low down in the tube of the blossom, sometimes at its mouth, in the former instance the Pistillum which varies also in length shews its round stigma, and with its attendant style looks like a pin stuck in the centre of the flower; such flowers in the *Polyanthus* are termed pin-eyed, while those in which the antheræ close the mouth of the tube, are called thrum-eyed, and this latter appearance in the opinion of the florist is an essential requisite in a good flower.

The contemplative mind feels a complacency in surveying the improvements which Providence permits to take place, in that part of the animal and vegetable world which mankind have brought under their care and protection, many instances of these might be adduced from the more useful and necessary productions, but it is not those only that amend under our care, we are permitted also to gratify our sight with the endless varieties that flowers put on, when cultivated by the curious; nor in any one instance does

"The exulting Florist mark
"with secret pride the wonders of his hand"

more than in the boundless luxuriance that *Polyanthuses* assume, their parent the Primrose being a native, they face the severity of the winds of March much more boldly than any foreign plants, natives of warmer climates.

LINNÆUS indeed cautions Botanists against being seduced by the gaudy tints, that fascinate the mere florist, but surely we may safely admire, without fixing our attention wholly on the flower-bed.

The Primrose comes in for a share also of medicinal fame.

The leaves and the root of Primrose seem to partake in some degree of the nature of those of *Afarum*, acting as strong errhines, or sternutatories, when snuffed up the nose, and as emetics (the roots at least) when taken inwardly; GERARD reports as from the experience of a skilful practitioner, that a drachm and a half of the powder of the dried roots taken up in autumn purgeth by vomit very forcibly, but safely, in such manner as *Afarum* doth. *Lewis M. M.*

The root affords a good example of the *radix dentata*, the tubercles forming the teeth, arise as in most roots of the kind from the remains of the base of the leaf, and hence from their number some idea may be formed of the age of the plant.





PRIMULA OFFICINALIS. The Cowslip.

PRIMULA. Linn. Gen. Pl. PENTANDRIA MONOGYNIA.

Involucrum umbellulæ. *Corollæ* tubus cylindricus, ore patulo.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

PRIMULA *officinalis* foliis rugosis dentatis subtus hirsutis, scapo multifloro, floribus omnibus nutantibus, corollæ limbo brevi. *Jacq. Misc. Austr. V. 1. p. 159. n. 3. Ait. Kew. V. 1. p. 193.*

PRIMULA foliis rugosis dentatis hirsutis, scapis multifloris, floribus omnibus nutantibus. *Hall. Hist. n. 610.*

PRIMULA *officinalis* foliis rugoso dentatis, limbo corollarum concavo, tubi collo oblongo. *Hoff. Germ. Fl. p. 67.*

PRIMULA *officinalis*. *Scop. Carn. ed. 2. n. 205.*

PRIMULA *veris* foliis rugosis dentatis. *Linn. Sp. Pl. 204. var. α officinalis* limbo corollarum concavo. *Syst. Vegetab. ed. 14. Murr. p. 192. Hudf. Fl. Angl. p. 84. veris.*

VERBASCULUM pratense odoratum. *Baub. Pin. 241.*

PRIMULA *veris* flavo flore elatior. *Clus. Hist. 1. p. 301.*

PRIMULA *veris* odorata flore luteo simplici. *I. B. III. 495.*

PARALYSIS vulgaris pratensis, flore flavo simplici odorato. *Park. Parad. 244.* The common field Cowslip.

PRIMULA *veris* major. Field Cowslips. *Ger. Herb. p. 635. fig. 1. but fig. 2. more resembles the plant; emac. 780. f. 1. Threlk. Raii Syn. 284.* Common Paigles, or Cowslips.

RADIX similis Primulæ acaulis, sed odore fortiori anisi prædita.

ROOT like that of the Primrose, but smelling more powerfully of aniseed.

FOLIA subcordato-ovata, ad basin contracta, tunc decurrentia, structura foliis P. acaulis similia, sed dimidio fere breviora, margine pleniore, plicato-crenulato, validiora, obscurius viridia, basi non attenuata, subtus pilis mollioribus et brevioribus vestita; Petioli glabriores, albidii, vix rubentes.

LEAVES somewhat heartshaped-ovate, contracted at the base, then decurrent, in their structure like those of the Primrose, but shorter by nearly one half, fuller at the edge, which is somewhat folded as well as notched, stronger, of a deeper green, not running so taper at the base, covered on the underside with softer and shorter hair; the Leaf-stalks smoother, whitish, with scarcely any red in them.

FLORES parvi, nutantes, subsecundi, lutei, suaviter odorati.

FLOWERS small, hanging down, and generally to one side, yellow, and fragrant.

SCAPI erecti, foliis 3plo aut 4plo longiores, pallidi, villosi, umbelliferi, multiflori.

STALKS upright, 3 or 4 times longer than the leaves, pallid, villous, supporting many flowers in an umbel.

STIPULÆ ad exortum umbellæ, pedunculos cingentes, parvæ, acuminatæ.

STIPULÆ at the base of the umbel, surrounding the peduncles, small and tapering to a point.

PEDUNCULI subunciales, villosi, pallidi.

PEDUNCLES about an inch in length, villous, and pallid.

CALYX: PERIANTHIUM monophyllum, subcampanulatum, ventricosum, laxum, pentagonum, villosum, quinquefidum, laciniis ovatis, acutis, fig. 1.

CALYX: a PERIANTHIUM of one leaf, somewhat bell-shaped, bellying out a little, fitting loosely about the tube of the Corolla, five-cornered, villous, divided into five ovate, pointed segments, fig. 1.

COROLLA monopetala: Tubus uti in Acauli, calyce paulo longius: Limbus vero brevissimus, concavus, flavus, maculis, quinque parvis, distinctis, aurantiacis, ad basin notatus. Faux simplex, absque corona, fig. 2, 3, 4.

COROLLA monopetalous: Tube as in that of the Primrose, a little longer than the calyx: the Limb very short, concave, yellow, marked at the base with five small distinct orange-coloured spots, the Mouth simple, without any crown, fig. 2, 3, 4.

STAMINA et Pistillum uti in Acauli, fig. 5, 6.

STAMINA and Pistillum as in the Primrose, fig. 5, 6.

In speaking of the Primrose, we had occasion to notice the place of growth, and time of flowering of the Cowslip; respecting the latter, we may add, that it is found in moist meadows, as well as upland pastures, and the borders of fields, and sometimes in that abundance as considerably to diminish their produce; hence, with all our partiality for this universal favourite, we hesitate not to pronounce it a plant noxious in agriculture; for, by the spreading of its leaves, it occupies much ground, while its produce is insignificant, and not relished by cattle, *vid. Pan. Suec.*

It retains its character when introduced into the garden, colour excepted, which it has a tendency to change, first to an orange brown, or tawny, and finally to a deep red; Mr. MOONE, who has long cultivated it, amidst a profusion of rare and valuable plants, in his garden, Hyde-Park, assures me, that it has constantly undergone this and no other change with him.

Both GERARD and PARKINSON, figure a variety of it with blossoms perfectly double, and which appears to have been common in our gardens when they wrote, though extremely scarce, if existing now; we possess a hose and hose variety with yellow, and another with deep scarlet blossoms, almost equal in beauty to those of the *Cyrilla pulchella*, and we have had one plant of the common Cowslip, which from the same root produced some flowers on peduncles, and others on a scapus.

The

The blossoms of the Cowslip, in its wild state, usually hang to one side; this appearance has in part been noticed even by Poets (who, in general, have not sufficiently attended to the works of Nature) thus THOMSON in his *Seasons*, *Spring*, line 443.

*Then seek the bank where flowering Elders crowd,
Where scattered wild the Lily of the vale
Its balmy essence breathes, where COWSLIPS HANG
THE DEWY HEAD, where purple Violets lurk.*

And MILTON, in his *Lycidas*,

*Bring the rathe primrose that forsaken dies,
The tufted crow-toe, and pale jessamine,
The white pink, and the pansie freakt with jet,
The glowing violet,
The musk-rose, and the well-attired woodbine,
WITH COWSLIPS WAN THAT HANG THE PENSIVE HEAD,
And every flower that sad embroidery wears:
Bid amaranthus all his beauty shed,
And daffadillies fill their cups with tears,
To strew the laureat hearse where Lycid lies.*

We have here quoted more than was barely necessary for our purpose, as it gives us an opportunity of justifying the remark above made; the glaring anachronism, if we may be allowed the expression, in the blowing of such plants, as Poets frequently bring together, has often appeared to us highly reprehensible, especially in those whose grand design has been to represent the appearances, the æconomy, and the wonders of Nature in elegant verse; every lad educated in the country knows that the Violet, the Cowslip, and the Elder, flower at very distant periods; it is therefore extraordinary that THOMSON, above all others, should group such plants, when innumerable others presented themselves: from MILTON such accuracy was not perhaps to be expected; we are not therefore, to be much surprised at his bringing together the *Primrose* and the *Jessamine*, the produce of spring and summer.

These remarks are not offered from a fondness for criticism, or from a desire of detracting from works which have afforded us such exquisite pleasure; nor are these selected as the only authors in which such anachronisms are to be met with, they abound in most poetry, and should, as much as possible, be avoided; for though they may not be noticed by the generality of readers, they must be regarded as blemishes at least by such as are accustomed to view the works of nature with any degree of accuracy.

We notice with more pleasure an instance, the reverse of what we have thought it our duty to censure: SHAKESPEARE has described the blossoms of the Cowslip with a degree of accuracy almost botanical, and has shewn how pleasing the most trifling appearances in natural history may be rendered by an imagination like his,

*The Cowslips tall, her pensioners be,
In their gold coats spots you see,
Those be rubies, fairy favours,
In those freckles live their favours,
I must go seek some dew drops here,
And hang a pearl in every Cowslip's ear.*

The blossoms of this plant, in point of colour, are pleasingly and truly contrasted by MILTON:

The YELLOW COWSLIP, and the PALE PRIMROSE.

LINNÆUS gave to this plant, which he regarded as a mere variety of the Primrose, the name of *officinalis*, and which Professor JACQUIN, and many other respectable Botanists, considering it as a species, have continued; it being more frequently used in medicine than any other of the genus.

"Cowslip flowers have a moderately strong, pleasant smell, and a somewhat roughish, bitterish taste, both which they impart, together with a yellow tincture, to watery and to spirituous menstrea. Vinous liquors impregnated with their flavour, by maceration, or fermentation, and strong infusions of them drank as tea, are supposed to be mildly corroborant, antispasmodic, and anodyne. An infusion of three pounds of the fresh flowers in five pints of boiling water, is made in the shops into a syrup of a fine yellow colour, and agreeably impregnated with the flavour of the Cowslips." *Lewis M. Med. ed. Aik.*

Many good housewives in the country are in the practice of making a wine with Cowslip flowers, to be used rather as a medicine than an exhilarant; for a general opinion prevails, that they possess a somniferous quality: hence, POPE, in his imitations of *Horace's Satires*, says ludicrously,

*If the nights seem tedious—take a wife,
Or rather, truly, if your point be rest,
Lettuce and Cowslip wine—Probatum est.*

In the *Gentleman's Magazine*, Vol. 58. there are some pleasing lines on the Cowslip, by a gentleman of the name of HOMER, whose poetical effusions have often enriched that valuable Miscellany; with an extract from which we shall close our account of this plant.

Cowslip, of all belov'd, of all admir'd,
Thee let me sing, the homely shepherd's pride;
Fit emblem of the maid I love, a form
Gladdening the sight of man; a sweet perfume,
Sending its balmy fragrance to the soul.
Daughter of Spring and messenger of May,
Which shall I first declare, which most extol,
Thy sovereign beauties, or thy sovereign use?
With thee the rural dame a draught prepares,
A nectarous draught, more luscious to my taste
Than all thy boasted trash, vine-nurturing France.
Maidens with thee their auburn tresses braid;
Or, with the daisy and the primrose pale,
Thy flowers entwining, weave a chaplet fair,
To grace that pole round which the village train
Lead on their dance to greet the jocund May;
Jocund I'll call it, for it lends a smile
To thee, who never smil'st but once a year;
I name thee not, thou poor unpitied wretch!
Of all despis'd*, save him whose liberal heart

♦ Taught him to feel your wrongs, and plead your cause,
♦ Departed HANWAY—Peace be to his soul!
♦ Great is that man who quits the path of fame,
♦ Who, wealth forsaking, stoops his towering mind
♦ From learning's heights, and stretches out his arm
♦ To raise from dust the meanest of his kind.
♦ Now that the Muse to thee her debt has paid,
♦ Friend of the poor and guardian of the wrong'd,
♦ Back let her pleas'd return, to view those sports,
♦ Whose rude simplicity has charms for me
♦ Beyond the ball or midnight masquerade:
♦ Oft on that merry morn I've join'd their throng,
♦ A glad spectator; oft their uncouth dance
♦ Ey'd most attentive; when, with tawdry shew,
♦ Ill-sorted ribbons deck'd each maiden's cap,
♦ And Cowslip-garlands every rustic hat:
♦ Who that has eyes to see or heart to feel,
♦ Would change this simple wreath which shepherds wear,
♦ Ev'n for that golden circle which surrounds
♦ The temples of a king?

* The Chimney-Sweeper.





Primula
pinnosa

PRIMULA FARINOSA. BIRD'S-EYE PRIMULA.

PRIMULA. Linn. Gen. Pl. PENTANDRIA MONOGYNIA.

Involucrum umbellulæ. Cor. tubus cylindricus, ore patulo. Caps. 1-locularis, teres, dentibus 10-dehiscens, polysperma.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

PRIMULA *farinosa* foliis crenatis glabris, florum limbo plano. Linn. Syst. Vegetab. ed. 14. Murr. p. 192. Sp. Pl. ed. 3. p. 205. Scop. Carn. ed. 2. p. 133. Hudf. Fl. Angl. ed. 2. p. 84. Lightfoot Scot. v. 1. p. 137.

ARETIA foliis glabris, ellipticis, rugosis, subtus farinosis, floribus umbellatis. Hall. Hist. 625.

VERBASCULUM umbellatum alpinum minus. - Baub. Pin. 247. Raii Syn. ed. 3. p. 285. Bird's-eye.

PRIMULA veris flore rubro et alb. Red and white Bird's-eye. Ger. Herb. 639. f. 1, 2. emac. 783. f. 1, 2.

PARALYSIS minor flore rubro et albo. Park. Parad. p. 246. Pl. 243. 10. Theat. p. 536. 1, 2.

RADIX	perennis, subpræmorsa, fibrosissima, fibris longis, perpendicularibus; odorata.	ROOT	perennial, somewhat flumped, very fibrous, fibres long, perpendicular; sweet-scented.
FOLIA	oblongo-obovata, crenata, glabra, crassiuscula, ad margines hinc inde reflexa, subtus farinosa, venosa.	LEAVES	oblong-obovate, crenated, smooth, thickish, here and there turned back on the edges, mealy on the under side and veiny.
SCAPUS	palmaris ad spithamæum, erectus, teres, nudus, pallide virens, farinosus.	STALK	a hand's breadth or span in height, upright, round, naked, of a pale green colour and mealy.
FLORES	in umbella erecta, purpurei, suaveolentes.	FLOWERS	purple, sweet-scented, growing in an upright umbel.
INVOLUCRUM	polyphyllum, foliolum f. bractea subulata ad singulum pedunculum.	INVOLUCRUM	many-leav'd, each leaf or bractea awl-shaped and placed at the base of each peduncle.
CALYX: PERIANTHIUM	monophyllum, persistens, obovatum, pentagonum, quinquefidum, laciniis erectis, obtusiusculis, apice subconniventibus, obscure viridibus, farinosis, fig. 1, 2.	CALYX:	a PERIANTHIUM of one leaf, continuing, obovate, five-corner'd, divided into five segments, which are upright, a little blunt, closing together somewhat at their tips, of a dull green colour and mealy, fig. 1, 2.
COROLLA:	monopetala, tubulosa; TUBUS cylindraceus, calice longior, in medio coarctatus, terminatus collo subventricoso, lutescente, glabro, fauce pervia, lutea coronata; LIMBUS 5-partitus, patentissimus, fig. 3.	COROLLA:	monopetalous, tubular; TUBE cylindrical, longer than the calyx, contracted in the middle, terminating in a neck somewhat enlarged, yellowish, smooth, crowned with a mouth which is open and yellow; LIMB divided into five segments spreading very flat, fig. 3.
STAMINA: FILAMENTA	quinque, brevissima, intra collum tubi corollæ; ANTHERÆ erectæ, oblongæ, subtrigonæ, conniventes, flavæ, fig. 4.	STAMINA:	five FILAMENTS very short, within the neck of the tube of the corolla; ANTHERÆ upright, oblong, somewhat three-cornered, closing together and yellow, fig. 4.
PISTILLUM: GERMEN	superum, subglobosum, glabrum; STYLUS filiformis, longitudine tubi; STIGMA globosum, fig. 5.	PISTILLUM:	GERMEN above, somewhat globular, smooth; STYLE filiform, the length of the tube; STIGMA globular, fig. 5.
PERICARPIUM: CAPSULA	cylindracea, calyce duplo longior, fusca, unilocularis, ore quinquedentato, fig. 6.	SEED-VESSEL:	a cylindrical CAPSULE, twice the length of the calyx, brown, of one cavity, the mouth five-toothed, fig. 6.
SEMINA	plurima, minima, fusca, fig. 7.	SEEDS	numerous, very minute, and brown, fig. 7.

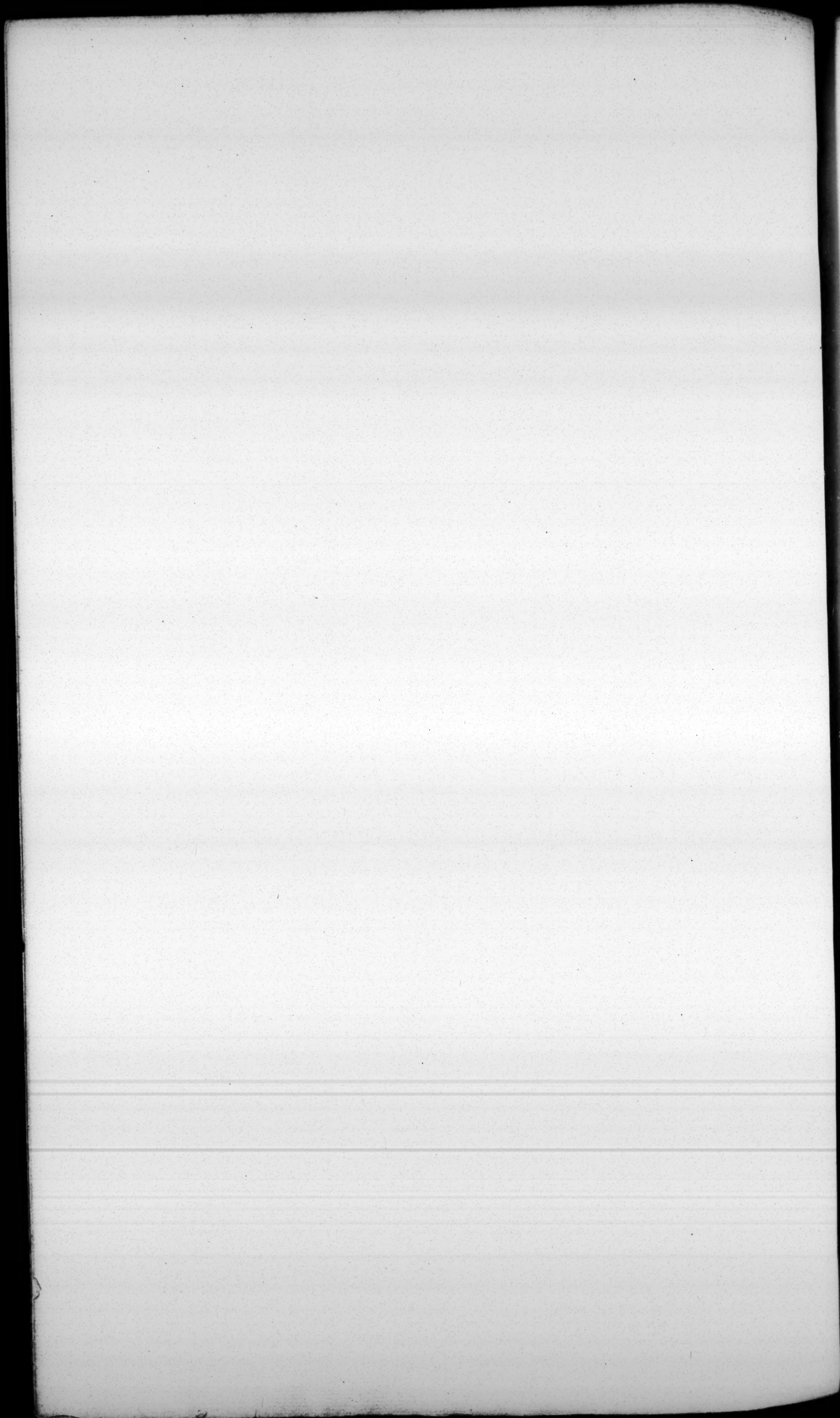
The species of Primula here figured, called *farinosa*, from the mealiness chiefly observable on the plant in the spring of the year, a native of the more northern parts of Europe, is found abundantly in certain districts of Yorkshire, and other northern counties of Great-Britain, chiefly in bogs and boggy meadows, in some of which it occurs in such profusion as to empurple them with its blossoms.

In its native soil, it flowers in July and August; in our more southern gardens, a month or six weeks earlier.

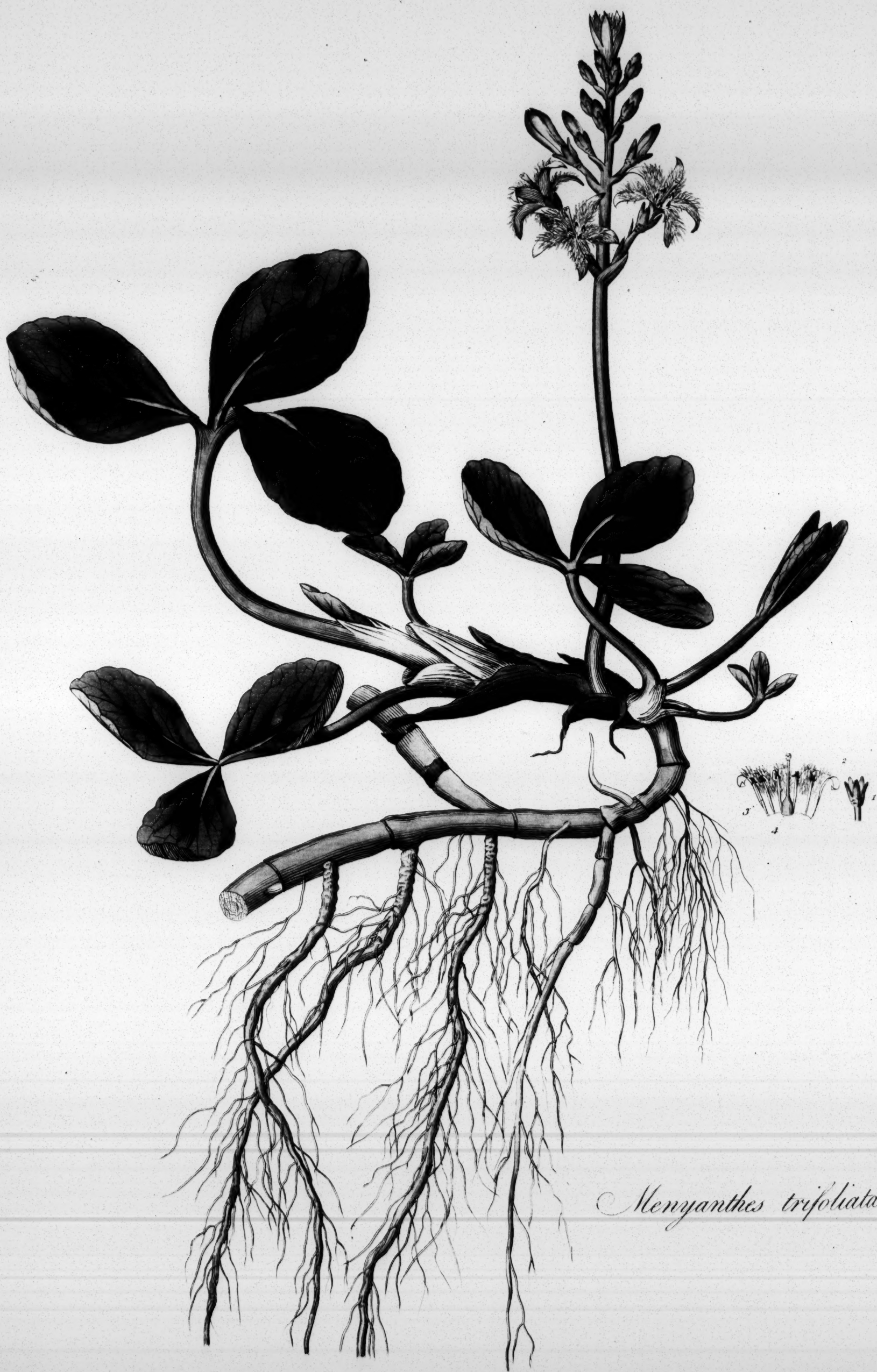
The flowers vary with different shades of purple, and they have been found entirely white; in point of size, the plant is also subject to much variation; in a bog in Skirritth-Wood, near Ingleton, we observed specimens of it a foot and a half high: in the cultivated plant, we have sometimes seen it have a tendency to be viviparous, to produce one or more tufts of leaves among the flowers of the umbel; in its wild state it seeds readily, and frequently when cultivated; towards the end of September its outer leaves fade, and the heart of the plant forms itself into a knob, or button, a kind of hybernaculum in which it remains during the winter; in the spring it expands, and the leaves then appear wholly white and mealy; the corolla continues to envelope the germen till it has almost arrived at maturity, forming a sort of calyptra to it; the capsule ultimately forms a mouth with five teeth, it should have ten to answer strictly to the character of a Primula.

In the neighbourhood of London cultivators seldom blow this plant in perfection, and rarely keep it for any length of time; and this justifies PARKINSON'S observation, who long since remarked, that it "would hardly abide any culture;" that it should suffer, as it commonly does, from a scanty supply of water in the summer, is not to be wondered at, but that it should be destroyed by too much wet in the winter, few would apprehend, *a priori*; such, however, is the fact, as I have too frequently experienced; one winter, indeed, I lost my whole stock from this cause, and renewed it by the kindness of my friend Mrs. CHORLEY, of Tottenham, niece of the late Dr. FOTHERGILL, who kept the few plants she had in pots, dry, by laying them on their sides, as is sometimes practised with Auriculas.

To attempt raising this plant from seed is scarcely worth the while, since a strong root of it may be divided so as to form a great number of others; the best time for doing this is in the spring, soon after its leaves have expanded; each offset should be placed in a separate pot, filled with two parts stiffish loam, and one part bog-earth of the light sandy kind, watered and set in the shade, under a north wall or paling, but not under trees, there they should be kept during summer in pans of water; in the autumn, as the wet season comes on, they should be taken out of the pans and placed, during the winter, under a common cucumber frame, chiefly for the purpose of keeping them from immoderate wet; the next year (if not the same) these plants will blow strong; and thus they should be treated every year, for Primulas in general require to have their roots frequently parted.







Menyanthes trifoliata.

MENYANTHES TRIFOLIATA. BUCKBEAN.

MENYANTHES *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

Corolla hirsuta. Stigma 2-fidum. Caps. 1-locularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

MENYANTHES *trifoliata* foliis ternatis. *Lin. Syst. Vegetab. p. 164. Sp. Pl. 208. Fl. Suec. n. 173. Fl. Lapon. p. 50.*

MENYANTHES foliis ternatis. *Haller Hist. n. 633.*

MENYANTHES *trifoliata. Scopoli Fl. Carn. n. 212.*

TRIFOLIUM palustre. *Bauh. Pin. 327.*

TRIFOLIUM paludosum. *Ger. emac. 1194. Parkinsf. 1212.*

TRIFOLIUM fibrinum *Tabern. et Germanorum. Raii Syn. p. 285. Marsh-Trefoil, Buckbeans. Hudson Fl. Angl. ed. 2. p. 85. Lightfoot Fl. Scot. p. 137. Oeder Fl. Dan. 541.*

RADIX perennis, repens, longa, geniculata, fibrosa.
CAULIS procumbens, variæ longitudinis pro ratione loci, vaginis tectus.

FOLIA petiolata, ternata, ovata, obtusa, utrinque glabra, venosa, margine repanda.

PETIOLI teretes, striati, basi vaginati.

SCAPUS simplex, nudus, e vaginis foliorum natus, erectus, teres, glaber, foliis longior.

THYRSUS terminalis, subpyramidalis, nudus.
BRACTEÆ ovatae, acutiuculae, concavae.

CALYX: PERIANTHIUM monophyllum, quinque partitum, basi rugosum, laciniis erectis, oblongis, obtusis, lævibus, margine coloratis. *fig. 1.*

COROLLA monopetala, campanulato-infundibuliformis, extus rosea, intus alba; *Tubus* crassus, calyce longior, quinque-fulcatus; *Limbus* quinque-partitus, laciniis ovato-lanceolatis, acutiuculis, reflexo-patentibus, intus barbatis, apicibus nudis, barbâ longitudine calycis, filamentosa, alba. *fig. 2.*

STAMINA: FILAMENTA quinque, subulata, alba, corollæ tubo adnata; ANTHERÆ purpurascens, sagittata, apicibus incurvis; POLLEN flavum. *fig. 3.*

PISTILLUM: GERMEN ovatum, viride, nitidum; STYLUS cylindricus, superne paululum incrassatus, staminibus duplo longior; STIGMA bilabiatum, flavum, villosum. *fig. 4.*

ROOT perennial, creeping, long, jointed and fibrous.
STALK procumbent, various in its length, according to its situation, covered by the sheaths of the leaves.

LEAVES standing on foot-stalks, growing three together, ovate, obtuse, smooth on both sides, veiny, the edge waved or serpentine.

LEAF-STALKS round, striated, forming a sheath at the bottom.

SCAPUS, or flowering stem, simple, naked, arising from the sheaths of the leaves, upright, round, smooth, longer than the leaves.

THYRSUS terminal, somewhat pyramidal, naked.

FLORAL-LEAVES ovate, somewhat pointed and hollow.

CALYX: a PERIANTHIUM of one leaf, deeply divided into five segments, at bottom wrinkly, the segments upright, oblong, obtuse, smooth, and coloured on the edge. *fig. 1.*

COROLLA monopetalous, betwixt bell and funnel-shaped, externally of a rose colour, internally white; *Tube* thick, longer than the calyx, having five grooves; *Limb* divided into five segments, which are narrow and pointed, spreading and turned back, bearded on the inside, the tips naked, beard the length of the calyx, thready and white. *fig. 2.*

STAMINA: five FILAMENTS, tapering, white, growing to the tube of the corolla; ANTHERÆ purplish, arrow-shaped, the tips bending in; POLLEN yellow. *fig. 3.*

PISTILLUM: GERMEN ovate, green, shining; STYLE cylindrical, above a little thickened, twice the length of the stamina; STIGMA composed of two lips, green and villous. *fig. 4.*

PARKINSON informs us, that in his time this plant was generally called by the name of *Marsh-trefoil*, and sometimes *Marsh-claver*; it is now generally known by the name of *Buckbean*, whether this be a corruption of the compound word *Bog-bean*, or of the low Dutch *Boex boonen*, hoc est *Phaseolum hircinum*, or whether it be an original English word we shall not presume to determine, it being a point on which the learned themselves are not agreed; but there is one point in which all who have seen the Buckbean in perfection will at once agree, viz. that it is one of the most beautiful plants this country can boast, nor does it suffer when compared with the *Kalmia's*, the *Rhododendron's*, and the *Erica's* of foreign climes, which are purchased at an extravagant price, and kept up with much pains and expence, while this delicate native, which might be procured without any expence, and cultivated without any trouble, blossoms unseen, and wastes its beauty in the desert air.

It grows abundantly in most boggy meadows, it will also flourish in ponds and lakes, and may be found in *Battersea Meadows*, particularly about a hundred yards distant from the *Red House* towards *Chelsea*, also plentifully in the marshes about the island of *St. Helena*, near *Rotherhithe*, and no where in greater plenty than in the marshes about *Staines*, in many of which it is the principal plant. It flowers in May and June.

To

To such as wish to have this plant flower with them in perfection, I would recommend the following mode of cultivation : collect the roots of the plant either in spring or autumn, put them in a large pot (having a hole at the bottom) filled with bog earth, immerse the pot about two-thirds of its depth in water, in which it should continue ; the advantage of this method is, that when the plant is coming into flower it may be brought into any room and placed in a pan of water, where it will continue to blossom for two or three weeks. A single root which I treated in this manner, planted in the spring, produced the ensuing May eight flowering stems, many of which had fifteen or sixteen blossoms on them.

LINNÆUS, in his invaluable *Flora Lapponica*, has several curious observations on the Buckbean, he informs us that the inhabitants of *some parts of Lapland*, and also of *Westrobothnia*, draw out the roots, which grow plentifully in the rivulets, and for want of other fodder give them to their cattle, who consume them entirely ; also that, in times of severe scarcity, the miserable inhabitants mix the powder of the dried roots with a small quantity of meal and convert them into bread, which, he observes, is very bitter and extremely nauseous ; that it was a general practice with the peasants of *Westrogothia*, in brewing, to substitute the bitter leaves of this plant for the hop, and that they were equally efficacious in preventing the beer from becoming sour ;—he concludes his remarks by observing, that BARTHOLIN, SIMON PAULI, and others, have exclaimed much on the scurvy of the northern regions, arising from cold, and of the profusion of antiscorbutic plants to be met with in those countries, among which they enumerate the Buckbean as a principal one ; LINNÆUS however asserts, that out of the great number of Laplanders he had seen not one was affected with that disease, although they lived in the coldest habitable climate, and used no vegetable for their ordinary food, not even bread. On the contrary, he had observed the scurvy to be one of the most common diseases of those who inhabited the countries adjacent.

Many physicians have a high opinion of its medical virtues.

“ It is of subtle penetrating parts, a good *diuretic* and *antiscorbutic*, whence it is also of great use to people afflicted with *rheumatic pains*. An *infusion* of the dried leaves may either be drank like tea, or they may be infused in white wine. It is a very intense *bitter*, and at first not very agreeable. *Dr. Deering Cat. Stirp.*

“ Marsh-trefoil is an efficacious aperient and deobstruent, promotes the fluid secretions, and, if liberally taken, gently loosens the belly. It has of late gained great reputation in scorbutic and scrophulous disorders ; and its good effects in these cases have been warranted by experience ; inveterate cutaneous diseases have been removed by an infusion of the leaves drank to the quantity of a pint a day, at proper intervals, and continued some weeks.” *Lewis's Disp.* p. 242.

It is also extolled for its efficacy in removing a variety of other diseases, as the periodical head-ach, asthma, protracted intermittents, jaundice, dropsy, wandering gout, worms, &c.—but we forbear saying more of it on this head, least its real virtues should be called in question.

Dr. TANCRED ROBINSON asserts, that sheep are cured of the rot by being driven to feed in marshes where this plant abounds ; this, if true, would prove a most valuable discovery.





Hottonia palustris.

HOTTONIA PALUSTRIS. WATER HOTTONIA, OR WATER VIOLET.

HOTTONIA *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

HOTTONIA *palustris*, pedunculis verticillato-multifloris. *Lin. Syst. Vegetab.* 164.

HOTTONIA *florum* verticillis spicatis. *Haller. hist. n.* 632.

MILLEFOLIUM *aquaticum* feu *Viola aquatica*, caule nudo. *Baubin. pin.* 141. *Parkinson,* 1256.

VIOLA *palustris*. *Gerard. emac.* 826. *Raii Syn. p.* 285. *Hudson. Fl. Angl. p.* 72. *Scopoli Fl. Carniol. n.* 213. *Fl. Dan. icon.* 487.

RADIX e plurimis fibrillis capillaceis albis conflat, quæ in limum profunde dimittuntur.

ROOT consists of numerous white capillary fibres, which penetrate deep into the mud.

CAULIS five SCAPUS floriferus, pedalis, simplex, erectus, multiflorus, verius apicem glandulis scabriusculus, ad basin foliis plurimis instructus, unde per aquam longe excurrunt caules plures qui fibrillas dimittunt.

STALK or flowering SCAPUS, a foot high, simple, upright, sustaining many flowers, towards the top roughish with little glands, furnished at bottom with numerous leaves, from whence several stalks proceed and run out to a considerable length through the water throwing out numerous white fibres.

FOLIA plurima, plerumque immerfa, pinnata, in apicibus caulium juniorum densa, reflexa, Pinnæ linearibus planis.

LEAVES numerous, generally under the water, pinnated, growing in tufts on the tops of the young stalks, bending downwards, the Pinnæ linear and flat.

FLORES pallide purpurei, verticillati, spicati, Pedunculi ad. 10, Bractæa, ad basin instructi, post florescentiam reflexi.

FLOWERS of a pale purple colour, growing in whirls, and forming a spike. Peduncles to 10 in number, furnished at bottom with a Bractæa, when the flowers are gone off turning downwards.

CALYX: PERIANTHIUM monophyllum, quinquepartitum: LACINIIS linearibus, erecto-patulis, fig. 1.

CALYX: a PERIANTHIUM of one leaf, divided into five SEGMENTS, which are linear, upright and somewhat spreading, fig. 1.

COROLLA: monopetala, hypocrateriformis, TUBUS longitudine calycis, LIMBUS quinquefidus, planus: LACINIIS ovato-oblongis, emarginatis, fig. 2.

COROLLA: monopetalous and salver-shaped, the TUBE the length of the calyx; the LIMB divided into five segments and flat; the SEGMENTS of an oval oblong shape with a notch at the extremity, fig. 2.

STAMINA: FILAMENTA quinque, subulata, brevia, erecta. ANTHERÆ oblongæ, flavæ, fig. 3.

STAMINA: five FILAMENTS tapering, short, and upright, ANTHERÆ oblong and yellow, fig. 3.

PISTILLUM: GERMEN subglobosum. STYLUS filiformis, brevis. STIGMA globosum, fig. 4.

PISTILLUM: GERMEN roundish, STYLE thread-shaped and short, STIGMA spherical, fig. 4.

PERICARPIUM: CAPSULA globosa, unilocularis, subpellucida, fig. 5.

SEED-VESSEL: a round CAPSULE of one cavity, slightly transparent, fig. 5.

SEMINA plurima, ovata, pallide fusca, fig. 7. receptaculo globoso intra capsulam affixa, fig. 6.

SEEDS numerous, oval, of a pale brown colour, fig. 7: affixed to a round receptacle within the capsule, fig. 6.

This singular plant abounds in most of our watry Ditches, particularly in such as divide the Meadows, and flowers in May and June, continuing for a considerable time in blossom; among a variety of other places it may be found in a ditch on the right hand side of the Field Way leading from Kent-street Road to Peckham.

We do not find any author that mentions its possessing any properties to recommend it but its beauty and singularity, both of which it possesses in a degree sufficient to command our admiration.

The leaves generally grow beneath the surface of the water and afford a Nidus if not Nourishment to the fresh-water Periwinkle and some other small shell fish.

Antient Botanists have given it the names of *Millefolium aquaticum*, and *Viola aquatica*; the great number of its leaves induced them, with some propriety, to call it *Millefolium*, but why they should call it a *Viola* seems difficult to determine, as the blossom has nothing in its structure similar to the flowers of that Genus. Boerhave afterwards called it *Hottonia*, in honour of Dr. Hotton, which name Linnæus has continued.







Lysimachia vulgaris.

LYSIMACHIA VULGARIS. YELLOW LOOSE-STRIFE.

LYSIMACHIA *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

Cor. rotata. *Capf.* globosa, mucronata, decemvalvis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

LYSIMACHIA *vulgaris* paniculata, racemis terminalibus. *Lin. Syst. Vegetab.* p. 165. *Sp. Pl.* p. 209. *Fl. Succic.* n. 175.

LYSIMACHIA foliis ovato-lanceolatis, spicis paniculatis. *Hall. Hist.* 630.

LYSIMACHIA *vulgaris.* *Scopoli Fl. Carn.* n. 214.

LYSIMACHIA lutea. *I. B. II.* 901. *Ger. emac.* 474.

LYSIMACHIA lutea major quæ Dioscoridis. *Baub. Pin.* 245.

LYSIMACHIA lutea major vulgaris. *Park.* 544. Yellow Willow-herb or Loose strife. *Raii Syn.* 282. *Hudson Fl. Angl.* ed. 2. p. 86. *Lightfoot Fl. Scot.* p. 138.

RADIX perennis, repens.

CAULIS tripedalis et ultra, erectus, ubi folia bina obtuse tetragonus, ubi terna fulcatus, seu angulosus, angulis obtusis; superne hirsutus, inferne glaber, ramosus, ad genicula paululum incrassatus.

FOLIA bina, seu terna, quaterna et quina etiam observavi, sessilia, ovato-lanceolata, integra, marginem inæquali, venosa, nuda.

FLORES paniculati, lutei, racemis terminalibus ex alis foliorum.

PEDUNCULI uniflori, subviscidi, apice incrassati.

CALYX: PERIANTHIUM monophyllum, quinquepartitum, acutum, erectum, persistens, laciniis striatis, rubro marginatis, apicibus ante et post florescentiam tortuosis. *fig. 1.*

COROLLA monopetala, rotata. *Limbus* quinquepartitus, laciniis ovatis, acutis. *fig. 2.*

STAMINA: FILAMENTA quinque, inæqualia, corolla breviora, subulata, compressa, viscosa, basi connata. ANTHERÆ incumbentes, subfagittatæ. *fig. 3.*

PISTILLUM: GERME subrotundum. STYLUS filiformis, longitudine staminum, peractâ florescentiâ elongatus. STIGMA obtusum. *fig. 4.*

PERICARPIUM: CAPSULA globosa, unilocularis, decemvalvis.

SEMINA plurima, minima.

RECEPTACULUM globosum, maximum.

ROOT perennial and creeping.

STALK three feet or more in height, when the leaves grow in pairs, obtusely four-cornered; when three together, grooved or angular, angles obtuse, the upper part of the stalk slightly hairy, the lower smooth, branched, and a little thickened at the joints.

LEAVES growing in pairs, or three together, I have even noticed them growing four or five together, sessile, ovate and pointed, entire but not perfectly even on the edges, veiny and destitute of hairs.

FLOWERS yellow, forming a panicle, flower-branches terminal, growing from the axæ of the leaves.

FLOWER-STALKS single-flowered, somewhat viscid, and thickened at the extremity.

CALYX: a PERIANTHIUM of one leaf, deeply divided into five segments, pointed, upright, and permanent, the segments striated, and edged with red, the tips both before and after flowering twisted. *fig. 1.*

COROLLA monopetalous, wheel-shaped. *Limb* deeply divided into five segments, which are ovate and pointed. *fig. 2.*

STAMINA: five FILAMENTS, unequal, shorter than the corolla, tapering, flattened, viscid, growing together at bottom. ANTHERÆ incumbent, somewhat arrow-shaped. *fig. 3.*

PISTILLUM: GERME roundish. STYLE filiform, the length of the stamina, lengthened out as the flowers go off. STIGMA blunt. *fig. 4.*

SEED-VESSEL a globular capsule of one cavity, and ten valves.

SEEDS numerous, very minute.

RECEPTACLE globular, and very large.

Some of the ancient writers attributed a very singular property to this plant; no less than a power of taming ferocious, and reconciling discordant animals; and hence they derive its name of *Lyfimachia* *. Others attribute the origin of its name to the learned and brave LYSIMACHUS, who, they say, was its first discoverer: however this be, our English name of *Loose-strife* appears evidently to be founded on the power thus idly ascribed to it.

This herb, though not so common as its name seems to imply, is tolerably frequent about *London*, in moist meadows, and by water-sides, especially in the environs of the *Thames*.

It varies much in the number of the leaves at the joints, and consequently in the angular appearance of its stalk. The twisted tips of the Calyx, though very remarkable, do not appear to have been noticed by authors.

Such as wish to ornament the edge of a river, or piece of water, cannot select a more proper plant; but its beautiful effect will be heightened by planting with it the *Lythrum Salicaria*; both of these have strong perennial roots, and will also readily grow in gardens where the soil is moist.

It flowers in *July* and *August*.

Some ascribe to it the power of dying green.

* A *pugna dirimenda* for *ἀντιπάλῳ* est certamen dirimere, of taking away strife or debate between beasts, not only those that are yoked together, but even those that are wild also, by making them tame and quiet, which, as they say, this herb will do, if it be either put about their yokes or their necks, which how true I leave to them who shall try and find it so. *Parkins.* p. 544.







Lysimachia nemorum.

LYSIMACHIA NEMORUM. WOOD MONEYWORT, or LOOSESTRIFE.

LYSIMACHIA *Linnaei Gen. Pl.* PENTANDRIA MONOGYNIA.

Cor. rotata. *Capf.* globosa, mucronata, 10-valvis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCICO SINGULARI FLORE MONOPETALO.

LYSIMACHIA *nemorum* foliis ovatis acutis, floribus solitariis, caule procumbente. *Lin. Syst. Vegetab.* p. 165. *Sp. Pl.* p. 211.

LYSIMACHIA caule decumbente, foliis ovato-lanceolatis, petiolis alaribus unifloris. *Haller hist.* p. 278.

ANAGALLIS lutea nemorum. *Bauhin Pin.* p. 252.

ANAGALLIS lutea. *Gerard emac.* 618.

ANAGALLIS flore luteo. *Parkin.* 558.

ANAGALLIS lutea nummulariæ similis. *J. Bauh. III.* 370. *Raii Syn.* p. 282. Yellow Pimpernel of the Woods. *Hudson Fl. Ang.* p. 86. *Lightfoot Fl. Scot.* p. 138.

RADIX perennis, fibrosa, fibris albidis.

ROOT perennial, fibrous, the fibres whitish.

CAULES plures, decumbentes, teretiusculi, utrinque
fulcati, idque alterne, læves, rubentes, ex
ima parte radicanes.

STALKS several, decumbent, roundish, with a furrow on each side, and that alternately, smooth, of a red colour, striking root at the base.

FOLIA opposita, petiolata, ovata, acuta, utrinque
glabra, subundulata, e flavo-viridia, venis
prominulis; petiolis brevibus, latiusculis.

LEAVES opposite, standing on foot-stalks, ovate, pointed, glossy on each side, somewhat waved, of a yellowish-green colour, the veins a little prominent; leaf-stalks short and broadish.

PEDUNCULI axillares, bini five solitarii, teretes,
uniflori, tenues, quam folia longiores.

FLOWER-STALKS axillary, growing sometimes in pairs, sometimes singly, round, one flower'd, slender, and longer than the leaves.

CALYX: PERIANTHIUM quinquepartitum, persistens,
laciniis subulatis, subtriangularibus, fig. 1.

CALYX: a PERIANTHIUM deeply divided into five segments, and permanent, the segments awl-shaped, and somewhat triangular, fig. 1.

COROLLA monopetala, flava, *tubus* nullus; limbus
quinquepartitus, laciniis ovatis, fig. 2. 3.
basi saturatius flavis, nitidisque, in fauce co-
rollæ glandulæ flavæ inter filamenta locantur,
et margo corollæ glandulis pedicellatis or-
natur, fig. 6.

COROLLA monopetalous, yellow, *tube* wanting, the limb divided into five ovate segments, fig. 2. 3. at bottom more intensely yellow and shining, in the mouth of the corolla small yellow glands are observable betwixt the filaments, and the edge of the corolla is ornamented with little glands standing on foot-stalks, fig. 6.

STAMINA: FILAMENTA quinque, lævia erecta,
medio paulo crassiora; ANTHERÆ oblongæ,
incurvatae, fig. 4. 5.

STAMINA: five FILAMENTS, smooth, upright, somewhat thickest in the middle; ANTHERÆ oblong, bent a little downwards, fig. 4. 5.

PISTILLUM: GERMEN subrotundum, læve; STY-
LUS filiformis, apice paulo crassior; STIGMA
simplex, fig. 7.

PISTILLUM: GERMEN roundish, smooth; STYLE filiform, somewhat thickest at top; STIGMA simple, fig. 7.

PERICARPIUM: CAPSULA globosa, unilocularis,
fig. 8.

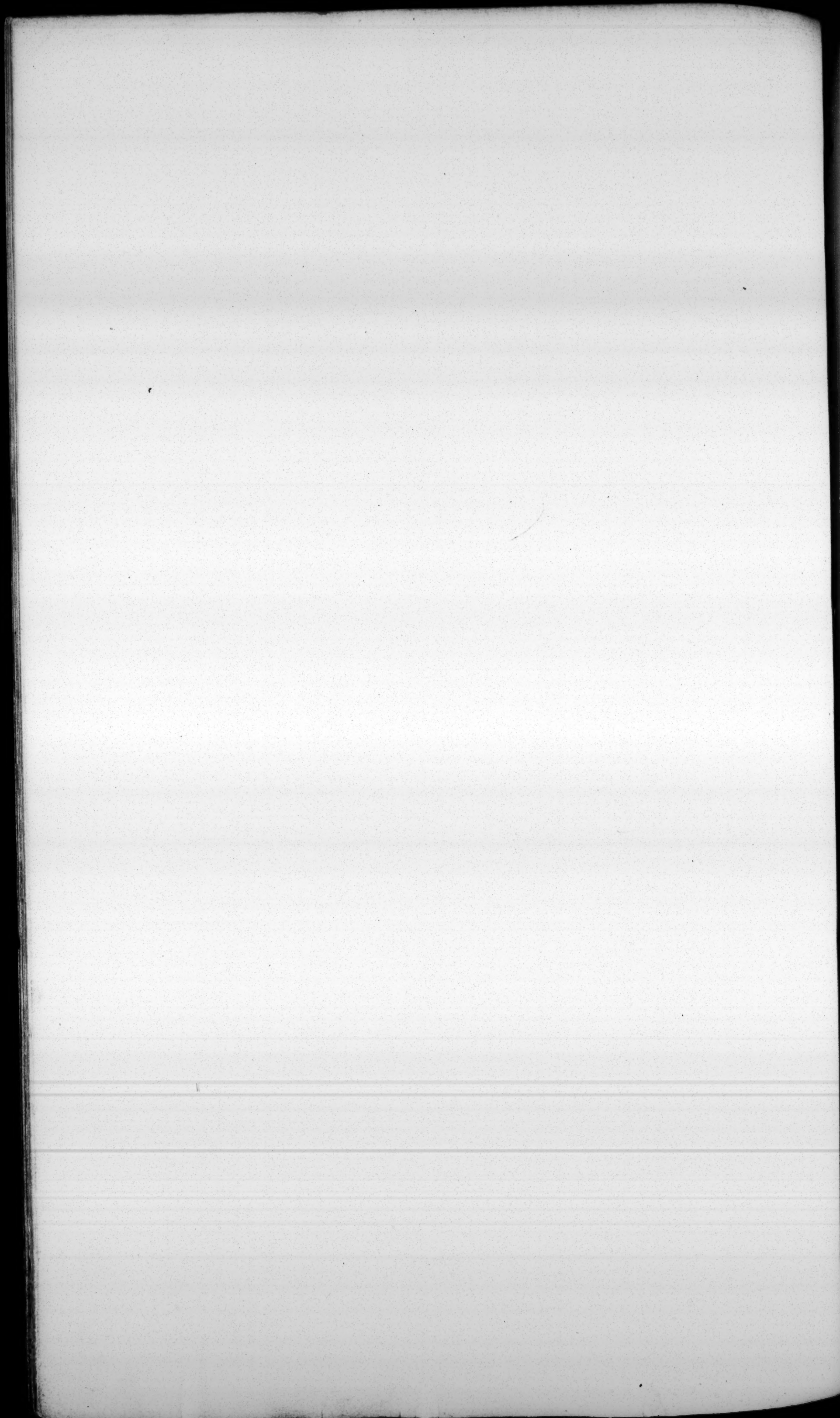
SEED-VESSEL: a globular CAPSULE of one cavity, fig. 8.

SEMINA plurima, orbiculata, plana, fig. 9.

SEEDS numerous, round, and flat, fig. 9.

When the blossoms of this plant are expanded, they somewhat resemble those of the common Pimpernel in shape, and hence the older Botanists, who paid little regard to such minute but necessary distinctions, as the hairiness of the Filaments, &c. considered it as an *Anagallis*; LINNÆUS has joined it with the Moneywort, to which, in its general habit, it bears no small affinity, but from which it essentially differs in many particulars; the leaves, for instance, are more pointed, the flowers are smaller, less bell-shaped, and stand on much longer foot-stalks, and the stalks are generally redder.

This species grows in moist woods, and is not uncommon in the neighbourhood of London; in Charlton-Wood it particularly abounds, flowering from June to September.







Pyramida Nummularia

Simson del.



LYSIMACHIA NUMMULARIA. MONEYWORT.

LYSIMACHIA *Linnaei. Gen. Pl. PENTANDRIA MONOGYNIA.*

Cor. rotata. Caps. globosa, mucronata, 10-valvis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

LYSIMACHIA *Nummularia* foliis subcordatis, floribus solitariis, caule repente. *Lin. Syst. Veget. p. 165. Sp. Pl. p. 211. Fl. Suecic. p. 63.*

LYSIMACHIA caule prostrato, foliis subrotundis, petiolis alaribus unifloris. *Haller. Hist. Helv. n. 629.*

LYSIMACHIA *Nummularia. Scopoli. Fl. Carniol. n. 216.*

NUMMULARIA major lutea. *Bauhin. Pin. 309.*

NUMMULARIA. *Gerard. emac. 630.*

NUMMULARIA vulgaris. *Parkinson. 555.*

Raii. Synop. p. 283, Moneywort, or Herb Two-pence.

Oeder. Flor. Dan. Ic. 493.

Hudson. Fl. Angl. ed. 2. p. 87.

Lightfoot. Fl. Scot. p. 138.

RADIX perennis, fibrosa, fibris simplicibus, descendibus.

CAULES plures, simplices, procumbentes, versus apicem repentes et subramosi, pedales et ultra, laeves, geniculati, utrinque profunde canaliculati, five tetragoni.

FOLIA ovato-orbiculata, opposita, erecta, glabra, subvenosa, parum undulata, petiolis brevibus, latis, decurrentibus, infidentia.

PEDUNCULI plerumque bini, oppositi, erecti, longitudine foliorum, angulati, versus apicem sensim incrassati.

FLORES lutei, majusculi, subrotati.

CALYX: PERIANTHIUM pentaphyllum, foliolis cordato-acutis, erectis, subcarinatis, marginibus, basi reflexis, fig. 1.

COROLLA quinquepartita, laciniis ovatis, acutis, patentibus, calyce duplo longioribus, suberosis, margine glandulosa, adhibito microscopio, fig. 2.

STAMINA: FILAMENTA quinque, subulata, erecta, glandulosa, corollâ breviora; ANTHERÆ sagittatae, fig. 3, 4.

PISTILLUM: GERMEN subrotundum: STYLUS filiformis, staminibus paulo longior, nudus: STIGMA parvum, obtusum, fig. 5, 6.

PERICARPIUM plerumque abortat.

ROOT perennial and fibrous, the fibres simple, and striking downward.

STALKS numerous, simple, trailing, towards the top creeping and somewhat branched, a foot or more in length, smooth, jointed, deeply channeled on each side, or four cornered.

LEAVES of a shape betwixt ovate and round, opposite, upright, smooth, somewhat veiny, and a little waved, sitting on short broad foot-stalks, which run down the main stalk.

FLOWER-STALKS growing generally two together, one opposite the other, upright, the length of the leaves, angular, gradually enlarged towards the end.

FLOWERS yellow, large in proportion to the leaves, and somewhat wheel-shaped.

CALYX: a PERIANTHIUM of five leaves, heart-shaped and pointed, somewhat keeled, the edges at bottom turning back, fig. 1.

COROLLA deeply divided into five segments, which are oval, pointed, and twice the length of the calyx, slightly jagged and glandular on the edge, if viewed with a microscope, fig. 2.

STAMINA: five FILAMENTS, tapering, upright, glandular, and shorter than the corolla: ANTHERÆ arrow-shaped, fig. 3, 4.

PISTILLUM: GERMEN nearly round: STYLE thread-shaped, a little longer than the stamina: STIGMA small and blunt, fig. 5, 6.

SEED-VESSEL rarely comes to perfection.

IT often happens that those plants which increase much while in flower, either by their roots or stalks, seldom produce ripe seeds: this is the case with the *Butterbur* and *Periwinkle*, as well as the present plant, on which, though I have examined a great number of specimens, I have not hitherto been fortunate enough to discover capsules ripe and perfectly formed; yet it is probable, that in some particular situations, such may be found.

The name of *Moneywort* has been given to this species from the roundness of its leaves, by which it is in one instance, distinguished from the *Lysimachia nemorum*. It grows in meadows, particularly on the edges of the ditches; also under hedges in moist situations; and is too common to need any particular place of its growth to be pointed out.

In a moist situation, no plant thrives more in a garden, nor with less trouble: it continues a long while in blossom: but without this advantage, the beauty and singularity of its foliage, is sufficient to recommend it.

The taste of the leaves is subastringent, and very slightly acid; hence they stand recommended by *BOERHAVE* in the hot scurvy, and in uterine and other hæmorrhages. But their effects are so inconsiderable, that common practice takes no notice of them. *Lewis's Disp. p. 184.*

It is eaten by Kine and Sheep, not much relished by Goats, and refused by Horses. *Lin. Amæn. Acad. Pan. Suec.*







Anagallis arvensis.

ANAGALLIS ARVENSIS. PIMPERNEL.

ANAGALLIS *Linnaei* Gen. Plant. PENTANDRIA MONOGYNIA.

Raii Gen. 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

ANAGALLIS foliis indivisis caule procumbente. *Lin. Spec. Plant.* 211.

ANAGALLIS phœniceo flore. *Baubin. pin.* 252.

ANAGALLIS mas *Fuschii* 18. *Gerard emac.* 617. *Parkinson* 558. *Oeder. Flor. Dan. tab.* 88. *Raii Syn.* 282. *Hudson.* 73. *Haller. hist.* 621. 626. *Scopoli. Fl. Carniol.* 139.

RADIX simplex, fibrosa, annua.

CAULIS ramosus, prostratus, quadrangularis, lævis, subtortuosus, *fig. 1.*

FOLIA opposita, sessilia, cordata, glabra, *subtus punctis fuscis notata.*

PEDUNCULI oppositi, foliis fere duplo longiores, inflexi.

CALYX persistens, quinquepartitus, segmentis triangularibus, alatis, membranaceis, *fig. 2.*

COROLLA monopetala, quinquepartita, laciniis rotundis, coccineis, ad basin purpureis, margine crenatis, subpilosis, *fig. 3. 4.*

STAMINA. FILAMENTA quinque, erecta, *pilosissima*, (*pili articulati!*) superne purpurea. ANTHERÆ oblongæ, biloculares, flavæ, infidentes, *fig. 5. 6.*

PISTILLUM. GERMEN rotundum, STYLUS filiformis, *obliquus*, longitudine filamentorum; STIGMA subrotundum, *extra circulum staminum locatum*, *fig. 7.*

PERICARPIUM. CAPSULA rotunda, nitida, quinquenervia, subdiaphana, circumscissa, fusca, *fig. 8.*

SEMINA plurima, angulosa, fusca, *fig. 9.*

ROOT simple, fibrous, annual.

STALK branched, procumbent, quadrangular, smooth, and a little twisted, *fig. 1.*

LEAVES opposite, sessile, heart-shaped, smooth, underneath dotted with brown.

PEDUNCLES opposite, nearly twice the length of the leaves, bending downwards.

CALYX persisting, divided into five Segments, the Segments triangular and membranous at the edges, *fig. 2.*

COROLLA monopetalous, quinquepartite, the laciniæ scarlet purplish at bottom, the edges slightly notched, and hairy, *fig. 3. 4.*

STAMINA. five FILAMENTS upright and very hairy (*the hairs when magnified jointed!*) at top purplish: The ANTHERÆ oblong, bilocular, yellow, and sitting on the filaments, *fig. 5. 6.*

PISTILLUM. the GERMEN round, the STYLE filiform, the length of the filaments, the STIGMA roundish, placed without the circle of the Stamina, *fig. 7.*

SEED-VESSEL. a CAPSULE, round, shining, brown, slightly transparent, having five nerves, dividing into two equal parts, *fig. 8.*

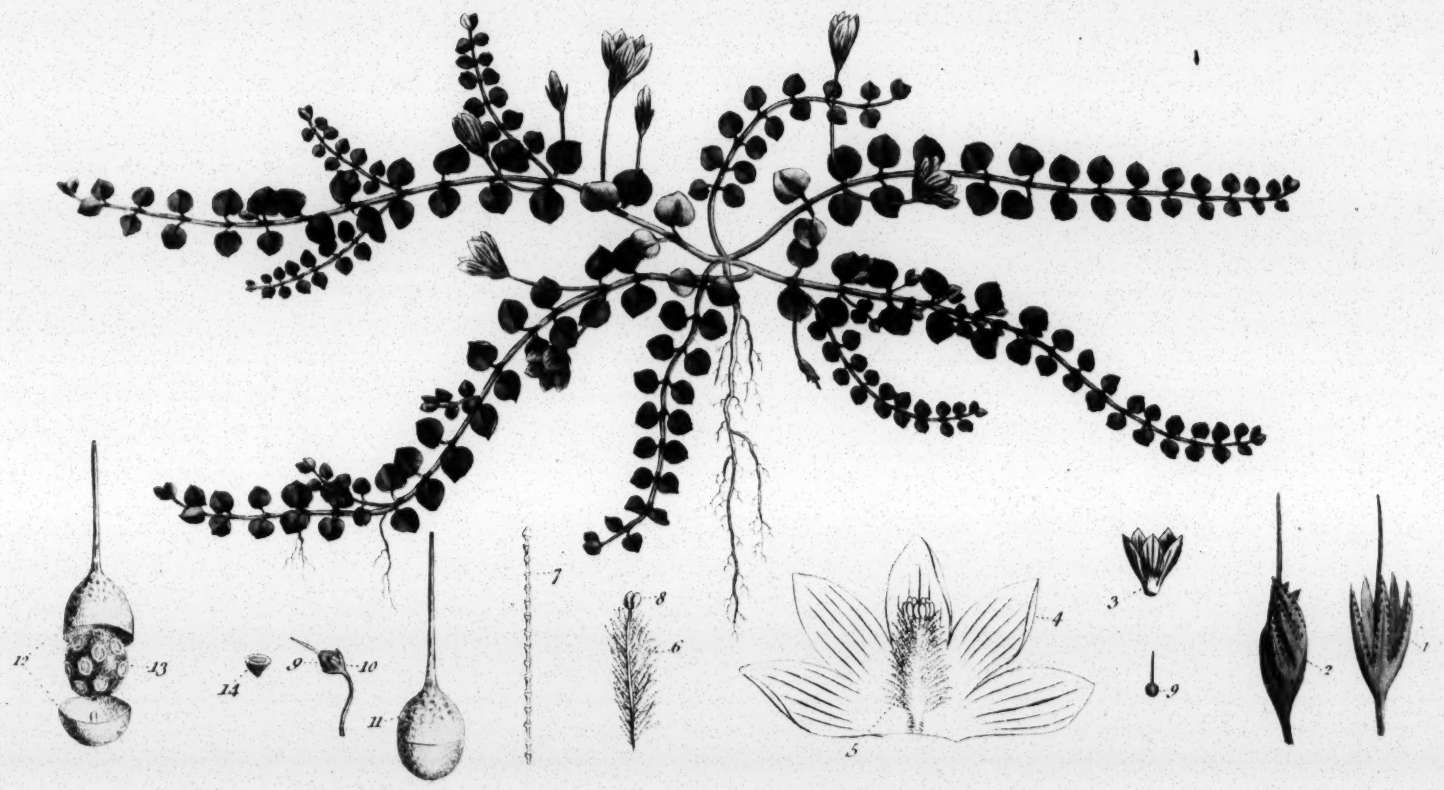
SEEDS numerous, brown, and angular, *fig. 9.*

NATURE seems to have taken uncommon pains in the formation of the Flowers of this little Plant; few possess more liveliness of colour or greater delicacy of structure, this must be sufficiently obvious to every common observer, but when its minute parts come to be viewed by the microscope, we are charmed with beauties altogether novel and unexpected; we then find that the edges of the flowers, which to the naked eye appear a little uneven or hairy, are furnished with a number of little glands placed on footstalks, and that the hairs of the Filaments which partly tend to distinguish this Genus, are regularly jointed: the Pistillum which generally arises upright betwixt the Stamina, is here inclined to one side, so that the Stigma is placed without the circle of the Stamina: The care which Nature has taken likewise in the preservation of these delicate parts from the injury of the weather, is not less remarkable. Every morning, if the weather be fair and warm, the blossoms fully expand, but if rain falls, or there be much moisture in the air, the flowers quickly close themselves up to secure the inclosed Antheræ and Stigma, from having their functions destroyed: from this property which it has in common with many plants of the same class, it has acquired the name of the *Shepherd's*, or *Poor Man's Weather-glass*,—they have remarked that if the flowers be open in a morning it will prove a fine day, if shut, the contrary.

The small birds (*PASSERES LINNÆI*) are fond of the seeds of this Plant; and according to experiments made by some of LINNÆUS's pupils, it appears that kine and goats feed on it.

It is very common in corn fields and gardens, flowering all the Summer. A variety with four leaves at a joint sometimes occurs in rich soil; but as it differs in no other part, and is a mere variety, it scarcely deserves a distinct figure. It is also found with blue and sometimes with white flowers, but we have not observed either of these varieties near London.





Anagallis tenella.

ANAGALLIS TENELLA. BOG PIMPERNEL.

ANAGALLIS *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

Cor. rotata. *Caps.* circumscissa.

Raii. Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

ANAGALLIS *tenella* foliis ovatis acutiusculis, caule repente. *Lin. Syst. Vegetab.* p. 165. *Sp. Pl.* 211.

LYSIMACHIA *tenella.* *Hudson. Fl. Angl. ed. 2.* p. 87.

ANAGALLIS *tenella* *Lightfoot Fl. Scot.* p. 139.

NUMMULARIA minor flore purpurascens. *Baubin pin.* 310. *Ger. emac.* 630. *Park* 555. *Raii. Syn.* p. 283. Purple-flowered Moneywort.

RADIX perennis, fibrosa.

CAULES plurimi, bipollicares aut palmares, teretes, glabri, repentes, ramosi, geniculis purpureis.

FOLIA opposita, parva, subrotunda, integerrima, utrinque glabra, petiolis brevissimis insidentia.

PEDUNCULI axillares, bini, longi, etiam pollicares, erecti, demum incurvati, simplices, uniflori.

FLORES subcampanulati, pro ratione plantæ majusculi, venis rubellis, saturationibus picti, *fig.* 3. 4.

CALYX: PERIANTHIUM quinquepartitum, laciniis lanceolatis, concavis, rubro punctatis, corollâ brevioribus. *fig.* 1. 2. 10.

COROLLA rotata, quinquepartita, laciniis ovatis, erectis, acutiusculis, carneis, venis saturationibus striatis. *fig.* 3. 4.

STAMINA: FILAMENTA quinque, alba, pilosissima, pilis albis, suberectis, articulatis: ANTHERÆ ovata, flavæ. *fig.* 5. 6. 7. 8.

PISTILLUM: GERMEN subrotundum; STYLUS subulatus, antheris paulo longior, STIGMA simplex. *fig.* 9.

PERICARPIUM: CAPSULA circumscissa, magnitudine feminis coriandri, rotunda, pallida, lævis. *fig.* 11. 12.

SEMINA plurima, subangulata, apice truncata. *fig.* 13. 14.

ROOT perennial and fibrous.

STALKS numerous from two to four inches long, round, smooth, creeping, branched, the joints purple.

LEAVES opposite, small, nearly round, entire at the edge, smooth on both sides, sitting on very short foot-stalks.

FLOWER-STALKS growing in pairs from the axæ of the leaves, even an inch in length, upright, but finally bent downward, single, and supporting one flower on each.

FLOWERS somewhat bell-shaped, rather large for the size of the plant, of a reddish colour, and painted with deeper colour'd veins. *fig.* 3. 4.

CALYX: a PERIANTHIUM deeply divided into five segments, which are lanceolate, concave, dotted with red, and shorter than the corolla. *fig.* 1. 2. 10.

COROLLA wheel-shaped, deeply divided into five segments, which are ovate, upright, a little pointed, of pale red, striped with veins of a deeper colour. *fig.* 3. 4.

STAMINA: five FILAMENTS, of a white colour and very hairy, the hairs upright, white also and jointed; ANTHERÆ ovate and of a yellow colour. *Fig.* 5. 6. 7. 8.

PISTILLUM: GERMEN roundish; STYLE tapering, a little longer than the Antheræ; STIGMA simple. *Fig.* 9.

SEED VESSEL: a round CAPSULE, smooth, of a pale colour, about the size of a Coriander seed, splitting horizontally in the middle. *Fig.* 11. 12.

SEEDS numerous, somewhat angular and cut off at top. *Fig.* 13. 14.

IF the horizontal division of the capsule, joined to the hairiness of the filaments, be the characters which constitute the Genus *Anagallis*, this plant is undoubtedly with much propriety referred to it by LINNÆUS, and removed from that of *Lysimachia* with which it was before connected; for it not only has an evident *Capsula circumscissa*, but the hairs of the filaments are also jointed, in which they resemble those of the *Anagallis arvensis* heretofore described and figured in the beginning of this work—Producing ripe capsules but sparingly, and growing in situations not always the easiest of access, it is no wonder that these discoveries should be of modern date. Mr. HUDSON in the second edition of his *Flora Anglica* without assigning any reasons, chuses to continue it a *Lysimachia*.

It is a very common plant on Bogs, indeed there is scarce a bog of any extent on which it is not to be found, the boggy part of *Shirley-Common* affords it most abundantly, it flowers in the months of June, July, and August, and towards the end of the latter ripens its capsules.







Convolvulus arvensis.

Handwritten notes and a small sketch of a flower bud.

CONVOLVULUS ARVENSIS. FIELD CONVULVULUS.

CONVOLVULUS *Linnaei Gen. Pl. PENTANDRIA MONOGYNIA.*

Cor. campanulata, plicata. Stigm. 2. Caps. 2-locularis: loculis dispermis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

CONVOLVULUS *arvensis* foliis sagittatis utrinque acutis, pedunculis subunifloris. *Lin. Syst. Veget. p. 168.*

Sp. Pl. p. 218. Flor. Suecic. p. 64.

CONVOLVULUS foliis sagittatis, latefcentibus, petiolis unifloris, stipulis remotis sagittatis. *Haller. hist. helv. n. 664.*

CONVOLVULUS *arvensis. Scopoli Fl. Carn. n. 219.*

CONVOLVULUS minor *arvensis. Baubin. pin. 294.*

CONVOLVULUS minor vulgaris. *Parkinson. 171.*

SMILAX lævis minor. *Gerard emac. 861.*

Raii Syn. p. 275, Small Bindweed.

Hudson Fl. Angl. ed. 1. p. 74. ed. 2. p. 88.

Lightfoot Fl. Scot. p. 140.

Oeder Fl. Dan. icon. 459.

RADIX perennis, crassitudinis pennæ coracis, teres, albidâ, lactescens, repens, vix extirpanda.

CAULES plurimi, tenues, tortuosi, procumbentes, ramesi, plantas vicinas contorquendo adscendentes et sæpe suffocantes.

FOLIA alterna, hastata, lævia, postice acutè hamata.

PETIOLI foliis breviores, inferne convexi, superne canaliculati.

PEDUNCULI uniflori, biflori aut triflori.

CALYX: PERIANTHIUM quinquepartitum, minimum, persistens, foliolis ovatis, obtusiusculis, fig. 1.

COROLLA monopetala, campanulata, patens, plicata, albo et rubro eleganter picta, interdum penitus alba, fig. 2.

STAMINA: FILAMENTA quinque subulata, alba, Corollâ dimidio breviora: ANTHERÆ subfagittatæ, albæ, fig. 3.

PISTILLUM: GERMEN subrotundum, glandulâ cinctum: STYLUS filiformis, Staminiibus paulo longior: STIGMATA duo, oblonga, latiuscula, fig. 4, 5, 6.

PERICARPIUM: CAPSULA subrotunda, mucronata. SEMINA angulosa, fusca.

ROOT perennial, the thickness of a crow quill, round, white, milky, creeping so as scarce to be eradicated.

STALKS numerous, slender, twisted, procumbent, branched, twining round, and often suffocating the plants growing near them.

LEAVES alternate, hastate, smooth, running out into two points behind.

LEAF-STALKS shorter than the leaves, on the lower part convex, on the upper part channeled.

FLOWER-STALKS supporting one, two, or three flowers.

CALYX: a PERIANTHIUM deeply divided into five segments, minute and permanent, the leaves oval and somewhat blunt, fig. 1.

COROLLA monopetalous, bell-shaped, spreading, plaited, elegantly painted with red and white, sometimes wholly white.

STAMINA: five FILAMENTS, tapering, white, about half the length of the Corolla; ANTHERÆ somewhat arrow-shaped, and white, fig. 3.

PISTILLUM: GERMEN roundish, surrounded by a gland; STYLE filiform, a little longer than the Stamina; STIGMATA two, oblong, and broadish, fig. 4, 5, 6.

SEED-VESSEL: a roundish, pointed CAPSULE.

SEEDS angular, and brown.

BEAUTIFUL as this plant appears to the eye, experience proves it to have a most pernicious tendency in agriculture: the field of the slovenly farmer bears evident testimony of this; nor is the garden wholly exempt from its inroads.

The following experiment may serve to show what precaution is necessary in the introduction of plants into a garden, especially when we want them to grow in some particular situation.

Tempted by the lively appearance which I had often observed some banks to assume, from being covered with the blossoms of this *Convolvulus*, I planted twelve feet of a bank, in my garden, which was about four feet in height, with some roots of it: it was early in the spring, and the season was remarkably dry, so that I scarce expected to see them grow; but a wet season coming on, soon convinced me that my apprehensions were unnecessary, for they quickly covered the whole surface of the bank, to the almost total extirpation of every other plant. It being a generally received opinion, that if a plant was cut down close to the ground, it would thereby be destroyed, or at least very much weakened, I was determined to try the validity of this opinion by an experiment, and accordingly, the whole of the *Convolvulus* was cut down somewhat below the surface of the earth: in about a month, the bank was covered with it thicker than before. I then had recourse to a second cutting, and afterwards to a third, but all these were insufficient; for now at this present writing (August) the bank is wholly covered with it; nor do I expect to destroy it, but by levelling the bank and destroying its roots.

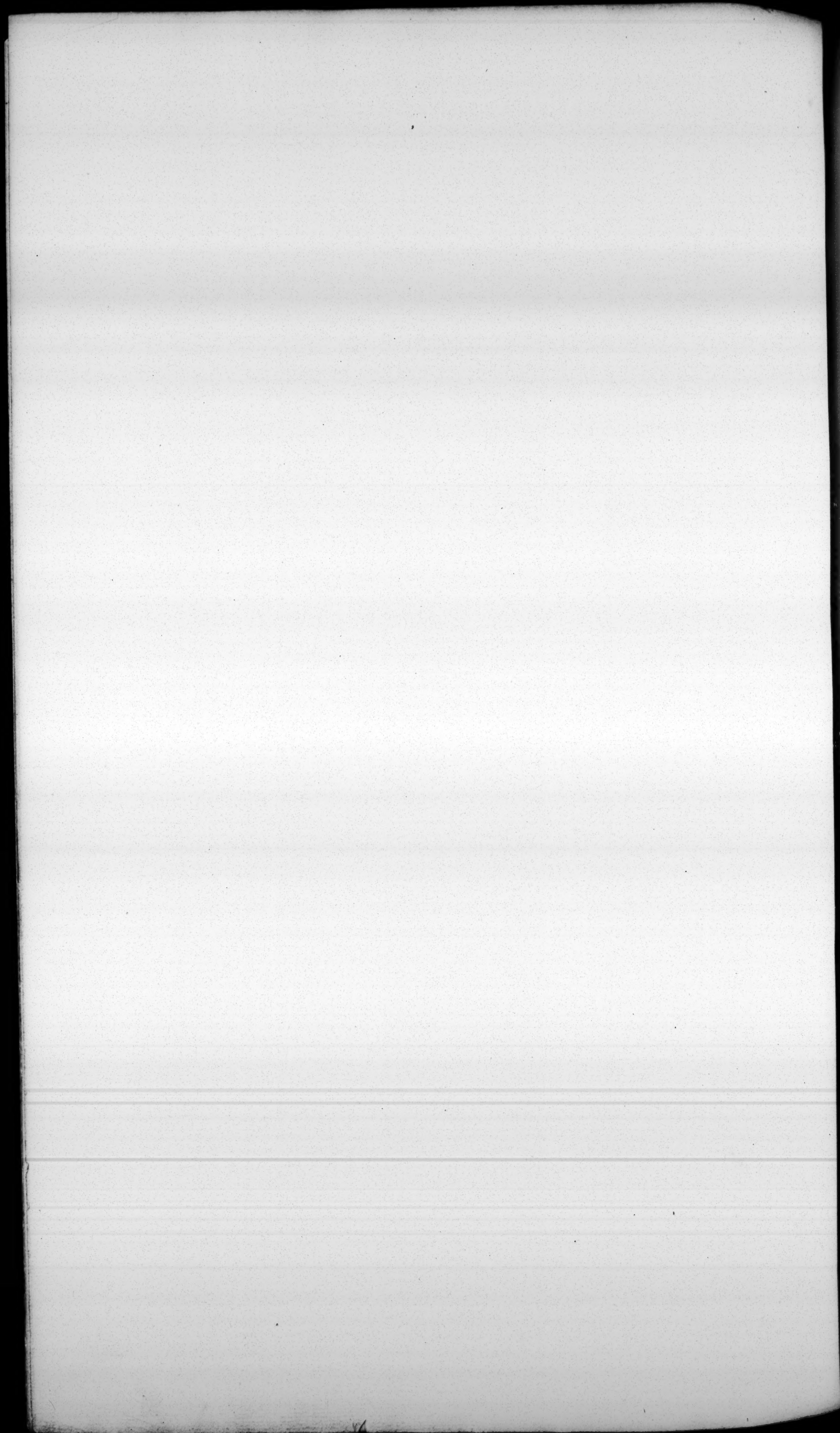
This experiment seems to determine a matter of no small consequence in agriculture, viz. that the cutting down these plants which have creeping roots, rather tends to make them spread farther than destroy them; and that nothing short of actual eradication, will effect the latter.

It is seldom that this plant is highly prejudicial to meadows, or pastures; but many fields of corn are every year destroyed by it, or rendered of little value.

It flowers in June and July. The blossoms vary considerably in their colour, being sometimes quite white, but most commonly painted more or less, with a lively red.

LINNÆUS's character of this plant, *pedunculis unifloris*, does not always hold good; the flower-stalks being frequently branched, and supporting two or three flowers.

The leaves sometimes appear quite narrow, and the blossoms have been observed to be divided almost to the base, *vid. Ray's Synops. ed. 3, p. 276.*







Convolvulus Sepium

CONVOLVULUS SEPIUM. LARGE WHITE CONVOLVULUS OR GREAT BINDWEED.

CONVOLVULUS *Linnaei. Gen. Pl. PENTANDRIA MONOGYNIA.*

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

CONVOLVULUS (*sepium*) foliis sagittatis, postice truncatis, pedunculis tetragonis, unifloris. *Linn. Syst. Vegetab. p. 168. Fl. Suecic. p. 64.*

CONVOLVULUS foliis sagittatis, hamis emarginatis, angulosis, petiolis unifloris, stipulis cordatis maximis. *Haller. hist. V. 1. p. 295.*

CONVOLVULUS Major albus. *Baubin. pin. 294.*

SMILAX lævis major. *Gerard emac. 861. Parkinson. 163. Raii Syn. p. 275. Great Bindweed. Hudson. Fl. Angl. p. 74. Scopoli. Fl. Carniol. 141. Fl. Dan. icon. 458.*

RADIX perennis, crassitie pennæ anserinæ, alba, sub terra reptans et late se propagans, vix eradicanda, Hortorum pestis.

CAULES numerosi, volubiles, tortuosi, striati, orgyales, subramosi.

RAMI pauci, alterni, cauli similes.

FOLIA alterna, sagittata, postice truncata, glabra, petiolata.

PEDUNCULI uniflori, alterni, tetragoni.

CALYX INVOLUCRUM biphyllum, foliolis oblongo-cordatis, subcarinatis, venosis, purpurascens. *fig. 2.*

CALYX PERIANTHIUM pentaphyllum, tubulosum, foliolis ovato-lanceolatis, pallide virentibus. *fig. 1.*

COROLLA monopetala, infundibuliformis, lactea, limbo lato, obscure diviso, paululum reflexo.

STAMINA: FILAMENTA quinque, fundo corollæ inferta, hirsutula, alba, subulata; ANTHERÆ sagittatæ, albæ, infidentes. *fig. 3.*

PISTILLUM: GERMEN subovatum; STYLUS subulatus apice tortuosus; STIGMA bifidum. *fig. 4. 5.*

NECTARIUM: Glandula crocea annuliformis ad basin Germinis.

PERICARPIUM: CAPSULA subrotunda, fuliginosa, mucronata. *fig. 6. 7.*

SEMINA angulosa, fusca, Cotyledonibus mire convolutis. *fig. 8. 9.*

ROOT perennial, about the thickness of a goose quill, of a white colour, creeping under the ground and propagating itself exceedingly, rooted out with the greatest difficulty, and hence very troublesome in Gardens.

STALKS numerous, twining, twisted, striated, generally about six feet high and somewhat branched.

BRANCHES few, alternate, like the Stalk.

LEAVES alternate, arrow-shaped, apparently cut off behind, smooth, and placed on foot-stalks.

FOOT-STALKS of the flowers, alternate, supporting one flower only, and four square.

CALYX an INVOLUCRUM composed of two heart-shaped leaves, slightly keel-shaped, veiny, and purplish. *fig. 2.*

CALYX a PERIANTHIUM, composed of five leaves and tubular, the leaves of an oval pointed shape and pale green colour. *fig. 1.*

COROLLA monopetalous, funnel shaped, of a white colour, the limb broad, obscurely divided, and turned back a little.

STAMINA: five FILAMENTS inserted into the bottom of the corolla, slightly hairy, white and tapering, the ANTHERÆ arrow shaped, white, and fitting on the filaments. *fig. 3.*

PISTILLUM: GERMEN somewhat oval, STYLE tapering, twisted at top; the STIGMA bifid. *fig. 4. 5.*

NECTARY a yellow gland surrounding the base of the Germen.

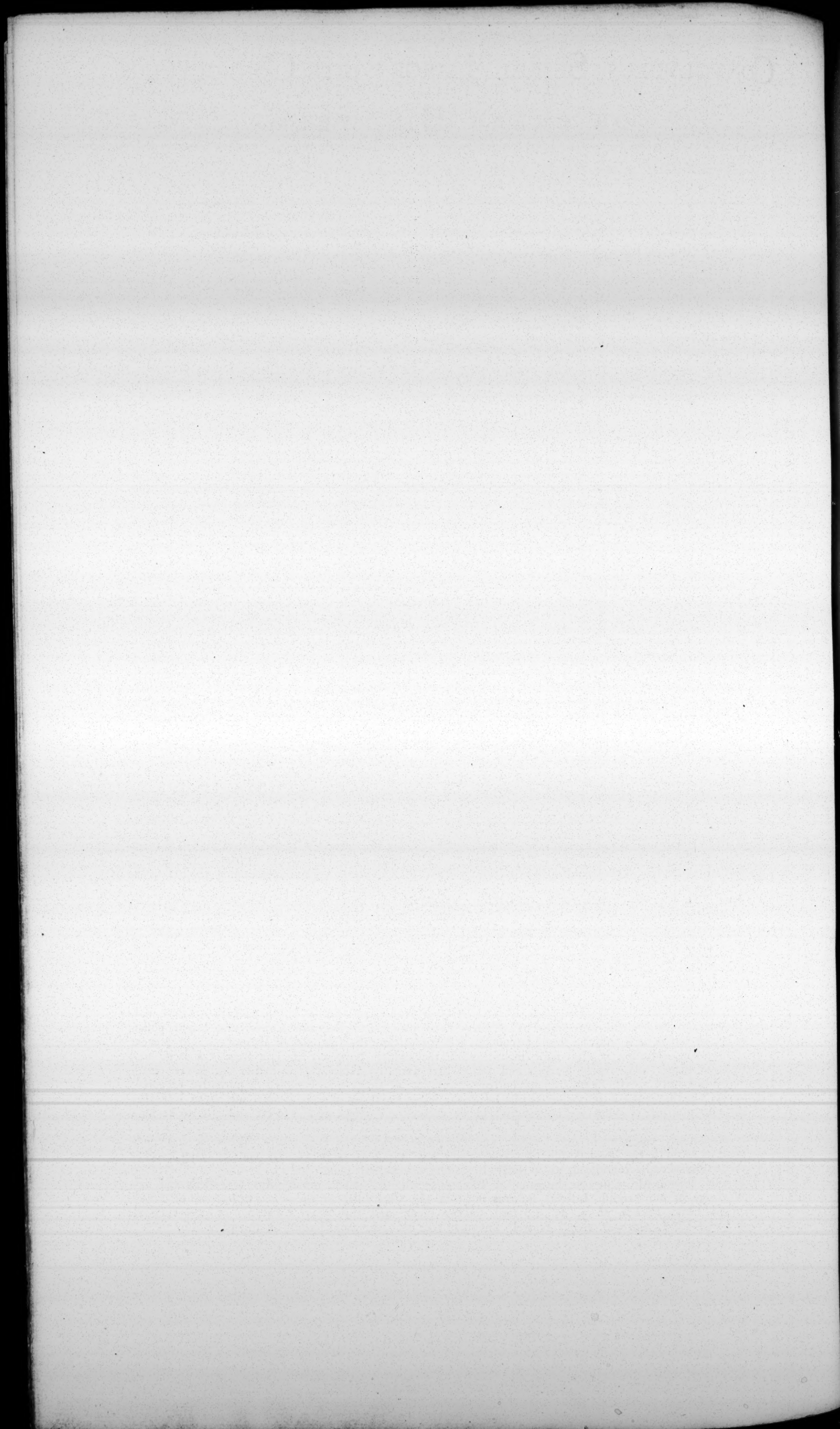
SEED-VESSEL a roundish CAPSULE of a sooty colour and pointed. *fig. 9. 7.*

SEEDS angular and brown, the Cotyledons folded up in a very singular manner. *fig. 8. 9.*

The plant which produces the *Scammony* is a species of *Convolvulus*, very similar to that which we have now described, hence Dr. Cullen and some other Physicians have conjectured that our *Convolvulus* might possess similar properties, but if it should be found to contain such properties, the smallness of its roots would prevent its juice from being collected in the same manner with that which flows on incision from the large root of the *Scammony* plant, and which hardens and forms that purgative substance. Whether an extract made from the expressed juice of the roots, or any other preparation of them might possess a purgative property, or if it should, whether such a purgative would be so far superior to any now in general use as to introduce it deservedly into practice, is what we cannot pretend to decide on. Hogs are said to eat and even to be fond of the roots.

It grows exceedingly common in our hedges, and flowers in August and September. Where it has once gained ground it is with the greatest difficulty eradicated: was it not for this property and its being so common, it would doubtless be considered, as it really is, a very ornamental plant.

My ingenious Friend Mr. CHURCH, Surgeon, at Islington, (who has taken much pains to collect and acquire a knowledge of our English Insects) informs me that the Caterpillar of the *Phalæna Vibicaria* or *Bloody vein Moth*, (*vid. Clerc. Phalæn. pl. 3. fig. 2.*) feeds on this plant, and the *Sphinx Convolvuli* or *Unicorn Hawk Moth*, (*vid. Roefel. Cl. 1. pap. noct. t. 7.*) is well known to take its name from feeding on this plant also.







Vinca major.

VINCA MAJOR. GREAT PERIWINKLE.

VINCA *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

Contorta. *Folliculi* 2, erecti, *Semina* nuda.

Raii. Syn. Gen. 17. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.

VINCA major caulibus erectis, foliis ovatis, floribus pedunculatis. *Lin. Syst. Vegetab.* p. 304.

PERVINCA caulibus erectis, foliis ovato-lanceolatis ciliatis, petiolis unifloris. *Haller. hist.* n. 573.

PERVINCA major. *Scopoli Fl. Carn.* n. 174.

CLEMATIS daphnoides major. *Bauh. pin.* 302.

CLEMATIS daphnoides s. Pervinca major. *Ger. emac.* 894.

CLEMATIS daphnoides latifolia, f. Pervinca major. *Parkins.* 380. *Raii Syn.* p. 268. The greater Periwinkle. *Hudson Fl. Angl. ed.* p. 91.

RADIX perennis, fibrosa, fibris albidis seu fuscis.

CAULES florigeri erecti, bipedales et ultra, teretes, lateribus alterne subcompressis, glabri, rubro maculati, cauliculi etiam sunt steriles qui humi repent aut plantas vicinas scandent.

FOLIA opposita, petiolata, ovata, glaberrima, minutim ciliata, remota, sempervirentia.

PEDUNCULI foliis longiores, erecti, teretes, glabri, filiformes, uniflori.

FLORES ampli, pallide cærulei.

CALYX: PERIANTHIUM quinquepartitum, laciniis sublinearibus, ciliatis, longitudine fere tubi corollæ. *fig. 1.*

COROLLA monopetala, hypocrateriformis, tubus inferne cylindraceus, superne latior, lincis quinque insculptus, ore pentagono, albido, limbus horizontalis, quinquepartitus, laciniis extrorsum latioribus, oblique truncatis. *fig. 2.*

STAMINA: FILAMENTA quinque brevissima, inflexa, retroflexa; ANTHERÆ biloculares, introrsum dehiscentes, membranâ pilosâ incurva terminatæ. *fig. 3.*

PISTILLUM. GERMINA duo, compressa glandulis duabus nitidis liquorem melleum copiose effundentibus; STYLUS utrique unus communis, ad basin sensim gracilescens; STIGMATA duo, inferius orbiculatum, planum, superius albidissimum, pilosum, membranâ antherarum oblecta. *fig. 4.*

ROOT perennial and fibrous, the fibrous whitish or of a brown colour.

STALKS producing the flowers upright, two feet high and upwards, round, the sides alternately somewhat flattened, smooth, dotted with red, there are also other stalks producing no flowers which creep on the ground or climb the neighbouring plants.

LEAVES opposite, standing on footstalks, ovate, smooth, shining, finely edged with hairs, remote from each other, and evergreen.

FLOWER-STALKS longer than the leaves, upright, round, smooth, filiform, each supporting one flower.

FLOWERS large, of a pale blue colour.

CALYX: a PERIANTHIUM divided into five segments, the segments somewhat linear, ciliated almost the length of the tube of the corolla. *fig. 1.*

COROLLA monopetalous, salver-shaped, the tube below, cylindrical, above broader, having five grooves, the mouth whitish, five cornered, the limb horizontal, divided into five segments which are externally broadest, and obliquely cut off. *fig. 2.*

STAMINA: five FILAMENTS very short, first bent in, and afterwards bent back; ANTHERÆ bilocular, opening inwardly, terminated by a hairy membrane bent in at top. *fig. 3.*

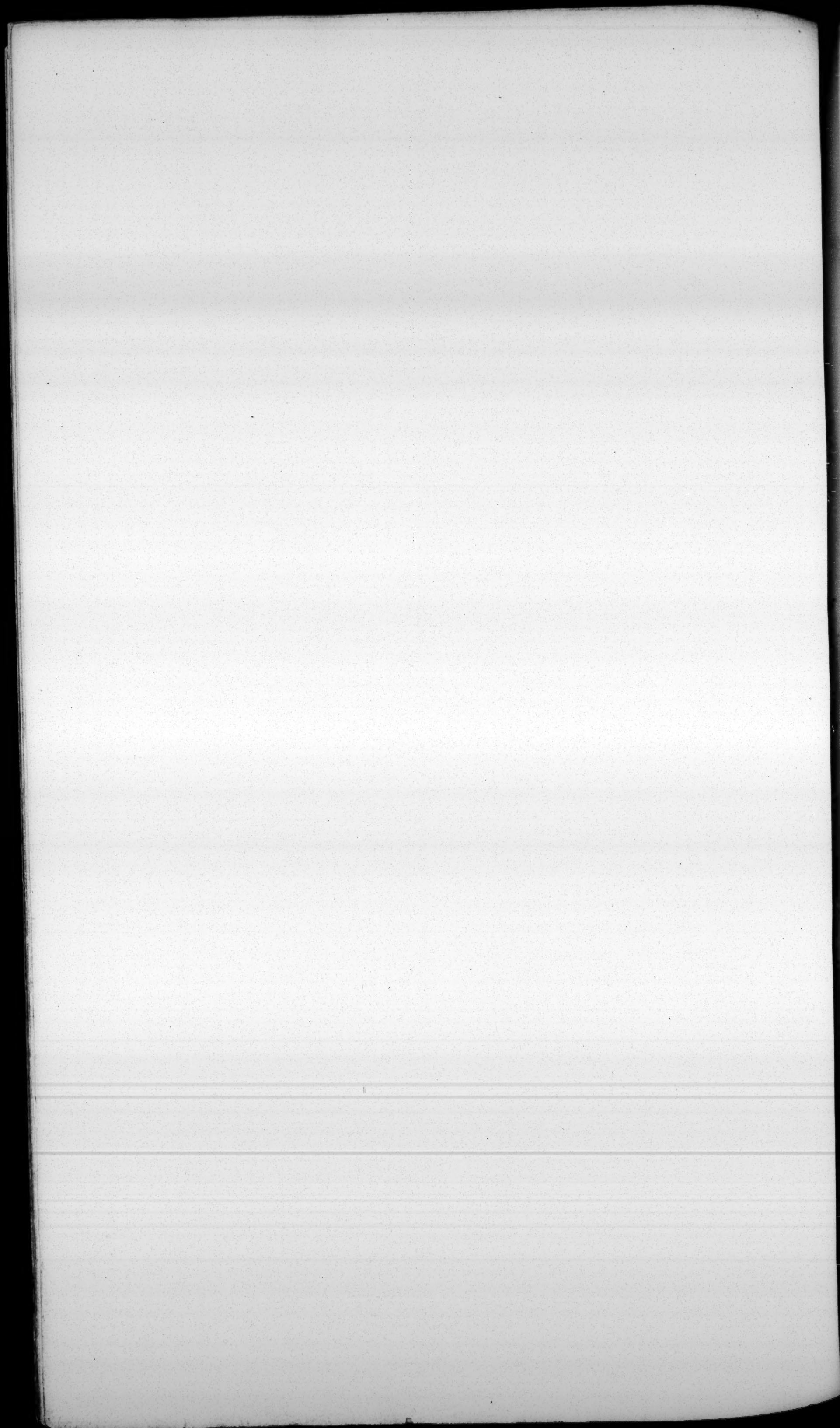
PISTILLUM: GERMINA two, pressed by two shining glands which pour forth plentifully a sweet liquor; STYLE one common to both, gradually tapering to the base; STIGMATA two, the lowermost round and flat, the uppermost very hairy, covered by the membrane of the antheræ. *fig. 4.*

In the *Systema Vegetabilium* of LINNÆUS, the last of his works published under his direction, this plant is suspected to be a variety of the *Vinca minor*, a suspicion for which there appears to be no grounds, and which is contrary to the united opinion of Botanists both antient and modern; the *minor* it is true has many varieties, but they relate to the colour of the blossoms, and leaves, and the multiplication of the former merely, no alteration is produced in the general habit of the plant, not even by long continued culture; HALLER, in his specific character of the *major*, observes, that the leaves are finely edged with hairs, so far as our observation extends this is constant, and may serve, if any difficulty of distinguishing them should arise, to settle it.

The *major*, like the *minor*, is common enough with us in gardens, but rarely met with wild, yet I have noticed it in several places, particularly under Lord Stormont's Park pales, on the left hand side of the road, betwixt Wandsworth and Putney-Common, and in a field near Beckenham, in Kent, where it was certainly in a wild state.

It flowers in May and June.

It is regarded only as an ornamental plant, but should be introduced into the garden with caution, as it increases very much, and is apt to over-run and injure others.





*Vinca minor*

Janson del.

VINCA MINOR. SMALL PERIWINKLE.

VINCA *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

Raii Syn. Gen. 17 HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.

VINCA *minor* caulibus procumbentibus, foliis lanceolato ovatis, floribus pedunculatis. *Lin. Syst. Vegetab. p.* 209. *Sp. Pl.* 304.

PERVINCA caulibus procumbentibus, foliis ovato lanceolatis, petiolis unifloris. *Haller. hist.* 572.

CLEMATIS daphnoides minor. *B. Pin.* 301.

VINCA PERVINCA minor. *Ger. emac.* 894.

VINCA PERVINCA vulgaris. *Parkins.* 380. *Raii Syn.* p. 268. Periwinkle.

Hudson Fl. Angl. ed. 2. p. 91. *Lightfoot Fl. Scot. p.* 147.

RADIX perennis, repens, fibrosa.

CAULES floriferi erecti, simplices, dodrantes, aut pedales, in sepius etiam, vepri sustentati ad altitudinem humanam quandoque evehuntur, debiles, teretes, glabri, utrinque sulco obsolete notati, peractâ florescentiâ humi repent.

FOLIA opposita, petiolata, petiolis foliis ipsis quadruplo brevioribus, sempervirentia, ligustrina, ovato lanceolata, glabra, margine integerrima, nuda; in caulibus floriferis lætius virentia.

CAULIS FLORIFERUS unicum aut duos flores, etiam plures aliquando producit, cæruleos, purpureosve, pulchellos, oculo albo, ad plenitudinem pronos.

PEDUNCULI uniflori, axillares, alterni, suberecti, foliis duplo fere longiores, teretes, glabri, purpurascentes.

CALYX: PERIANTHIUM quinquepartitum, tubo corollæ triplo brevior, persistens, laciniis erectis, acutis, glabris. *fig. 1.*

COROLLA monopetala, hypocrateriformis; *Tubus* inferne cylindraceus, superne latior, lineis quinque insculptus, rigidulus, externe nitidus, interne villosus; *Limbus* horizontalis, quinquepartitus, laciniis apici tubi adnatis, extrorsum latioribus, oblique truncatis.

STAMINA: FILAMENTA quinque, brevissima, inflexa, retroflexa, superne dilatata; ANTHERÆ membranaceæ, obtusæ, incurvæ, pilosæ, margine utrinque fariniferæ. *fig. 9. 10.*

PISTILLUM: GERMINA duo, subrotunda, compressa corpusculis duobus ad latera, nitidis, longitudine germinum; STYLUS obverse conicus, longitudine staminum; STIGMATA duo, inferius orbiculatum, planum, margine viscidum, superius capitatum, pilosum, albissimum. *fig. 3. 4. 5. 6. 7. 11.*

ROOT perennial, creeping and fibrous.

STALKS producing the flowers, are upright, simple, from nine inches to a foot in height, and sometimes in hedges supported by the bushes, they are raised to the height of six feet, weak, round, smooth, marked on each side with a groove faintly impressed, when out of bloom creeping on the ground.

LEAVES opposite, standing on footstalks four times shorter than the leaves themselves, evergreen, somewhat like those of Privet, oval, and pointed, smooth and shining, the edge perfectly entire, and naked, those on the flowering stalks of the most lively colour.

THE FLOWERING STALK produces one or two handsome flowers, sometimes more, of a blue or purple colour, with a white eye, and much disposed to be double.

FLOWER-STALKS supporting one flower, axillary, alternate, nearly upright, almost twice the length of the leaves, round, smooth and shining.

CALYX: a PERIANTHIUM deeply divided into five segments, three times shorter than the corolla, permanent, the segments upright, pointed and smooth. *fig. 1.*

COROLLA monopetalous, salver-shaped; *Tube* below cylindrical, above spreading, having five grooves, somewhat rigid, externally shining, internally villous; *Limb* horizontal, deeply divided into five segments, which appear to grow to the top of the tube, externally broadest and cut off obliquely.

STAMINA: five FILAMENTS, very short, bent in, and afterwards back again, dilated above; ANTHERÆ membranous, blunt, bent in, hairy, producing its farina on each side of the edge.

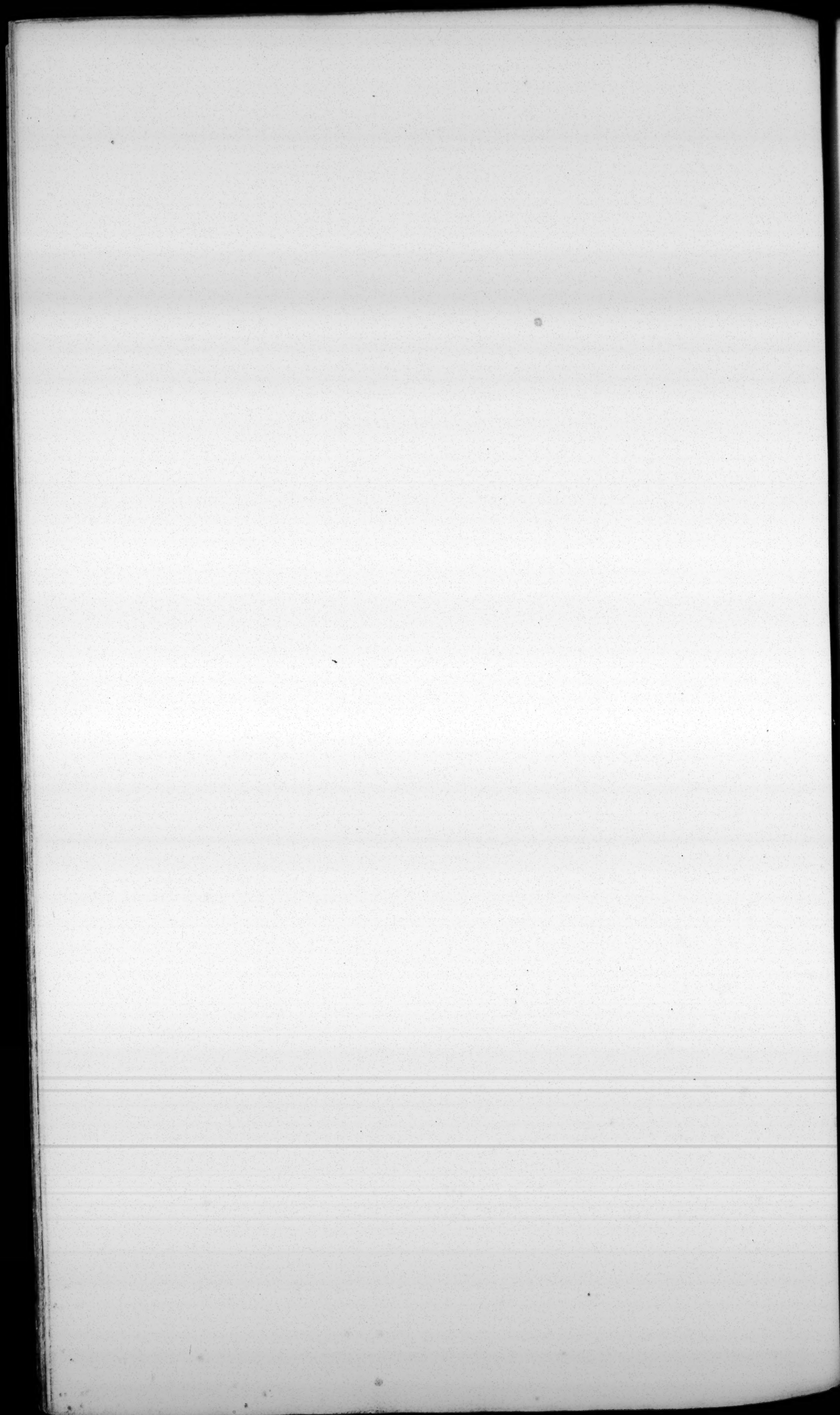
PISTILLUM: GERMINA two, roundish, somewhat flattened at the sides by two shining corpuscles of the length of the germina; STYLE inversely conical, the length of the stamina; STIGMATA two, the lowermost orbicular, flat, and clammy on the edge, the uppermost forming a little tuft of very white hairs.

WHOEVER looks into the tube of this flower with any degree of attention, must be struck with the wisdom shewn in the formation of the parts contained within it; in all the plants I have seen I do not recollect any greater instance of care taken to preserve the tender parts of the fructification, each Anthera is terminated by a membrane which bends over at top, and the membranes of all the Antheræ closing together, effectually seclude every thing which might injure the parts of the fructification below them, distinguished not less by the delicacy than the singularity of their structure. The filaments in their shape somewhat resemble a note of interrogation, the Antheræ in their structure are very similar to those of the violet, and open inwardly in the same manner: the style which in most flowers is broadest at top is here slenderest; they are two in number, but so closely united, that, without a magnifier, the division is scarce to be perceived; the stigmata, according to Linnæus, are two in number; it is most probable, however, that the lowermost, which is flat with a glutinous edge, and which forms a kind of ring round the styles, is the true stigma; the top is a little elevated above the stigma, and appears like a round white ball, which, when magnified, is found to consist of a number of hairs diverging from one center, in the microscope it is a very pleasing sight; the ripe seed vessel of this plant I have not been able to discover; they are most probably rarely produced.

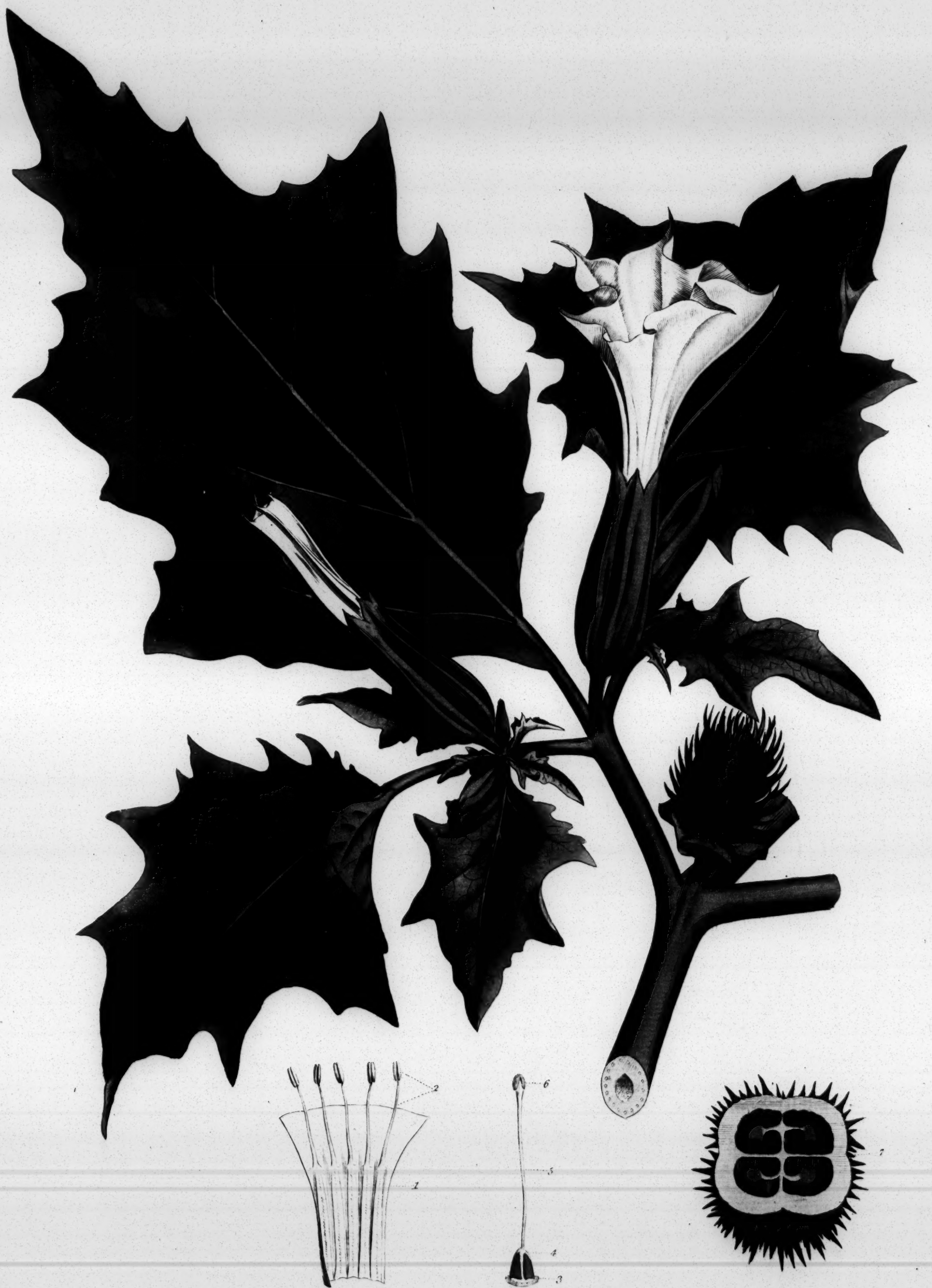
This species of Periwinkle varies much in the colour of its blossoms, which are sometimes purple, sometimes of a pale blue colour, and sometimes white; in the gardens it is also sold with divers sorts of variegated foliage and double blossoms.

At the foot of a shelter'd hedge exposed to the morning sun, it flourishes very much, especially if the soil be moist, and affords a very pretty ornamental flower in the spring months, nor is it so fugacious as many, but will continue in blossom a month or six weeks.

It may probably be found wild in divers places about London; as yet, however, I have noticed it in one spot only, viz. in the hedge of a field on the left hand side of Lordship Lane near Dulwich, where it had every appearance of being in a wild state.







Datura Stramonium.

DATURA STRAMONIUM. THORN-APPLE.

DATURA *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

Cor. infundibuliformis, plicata. *Cal.* tubulosus, angulatus, deciduus. *Catf.* 4-valvis.

Raii Syn. Gen. 16. HERBÆ BACCIFERÆ.

DATURA *Stramonium* pericarpis spinosis erectis ovatis, foliis ovatis glabris. *Lin. Syst. Vegetab.* p. 220. *Sp. Pl.* p. 255. *Fl. Succ. n.* 198.

STRAMONIUM foliis angulosis, fructu erecto, muricato, calyce pentagono. *Haller hist. n.* 586.

STRAMONIUM *fetidum.* *Scopoli Fl. Carniol. n.* 152.

SOLANUM *fetidum* pomo spinoso oblongo, flore albo. *Bauh. Pin.* 164.

STRAMONIUM spinosum. *Ger. emac.* 349.

SOLANUM pomo spinoso, oblongo, flore calathoides *Stramonium* vulgo dictum. *Raii Syn.* 266. *Hudson. Fl. Angl. ed. 2. p.* 92.

RADIX annua, ramosa, albida.

CAULIS variæ altitudinis pro ratione soli, pedalis, ad sepedalem, teres, glaber, late diffusus, ramulosus, ramis dichotomis, minutim pubescentibus.

FOLIA e dichotomia caulis et ramorum, solitaria, vix spithamea, petiolata, ovata, acuta, utrinque glabra, superne saturate viridia, inferne et ad margines pallidiora, nervis robustis, subalternis, margine undique inæqualiter sinuato-dentata, uno latere per petiolum longius extenso.

PETIOLI teretes, pubescentes, foliis breviores, superne obsolete canaliculati.

FLORES solitarii, e dichotomia caulis, una cum foliis egredientia, breviter pedunculati, erecti.

CALYX: PERIANTHIUM monophyllum, oblongum, tubulatum, ventricosum, dilute viridescens, quinquangulare, quinque-dentatum, deciduum horizontaliter prope basin, parte remanente, orbiculata, persistente.

COROLLA monopetalâ, infundibuliformis, nivea, *Tubus* viridescens, pentagonus, calyce brevior; *Limbus* basi nervosus, erecto-patulus, quinquangularis, quinqueplicatus, quinque-dentato-acuminatus, *fig. 1.*

STAMINA: FILAMENTA quinque, subulata, inferne tubo corollæ adnata, superne libera; ANTHERÆ ovali-lineares, erectæ, infidentes, e fusco-lutescentes, *fig. 2.*

NECTARIUM: Glandula crenata, annularis, ad basin germinis, *fig. 3.*

PISTILLUM: GERMEN superum, subconicum, undique hispidum; STYLUS filiformis, albus, superne paulo crassior, longitudine staminum. STIGMA crassiusculum, obtusum, bilamel-latum, *fig. 4, 5, 6.*

PERICARPIUM: CAPSULA spinosa, subovata, bilocularis, quadrivalvis, basi calycis imposita, *fig. 7.*

SEMINA numerosa, subreniformia, nigricantia.

ROOT annual, branched, whitish.

STALK various in its height, according to the soil in which it grows, rising from one to six feet, round, smooth, spreading widely, branched, branches forking, and covered with a fine down.

LEAVES springing from the forking of the stalk and branches, single, scarcely six inches long, standing on footstalks, ovate, pointed, smooth on both sides, above of a deep green colour, beneath and on the edges paler, ribs strong, somewhat alternate, the edge through its whole extent unequally sinuated and toothed, extending farther down the footstalk on one side than on the other.

LEAF-STALKS round, downy, shorter than the leaves, above faintly channelled.

FLOWERS single, proceeding together with the leaves from the forking of the stalk, standing on short footstalks and upright.

CALYX: a PERIANTHIUM of one leaf, oblong, tubular, bellying out, of a pale green colour, having five angles and five teeth, separating horizontally near the base, the remaining part orbicular and permanent.

COROLLA monopetalous, funnel-shaped, white, *Tube* greenish, five-cornered, shorter than the calyx; *Limb* ribb'd at the base, upright and spreading, five-cornered, with five plaits and five long pointed teeth, *fig. 1.*

STAMINA: five FILAMENTS, tapering, below attached to the tube of the corolla, above loose; ANTHERÆ betwixt oval and linear, upright, sitting, of a brownish yellow colour, *fig. 2.*

NECTARY: a circular notched Gland at the base of the germen, *fig. 3.*

PISTILLUM: GERMEN above the calyx, somewhat conical, hispid; STYLE filiform, white, thickened a little above, the length of the stamina. STIGMA thickish, obtuse, and composed of two lamellæ, *fig. 4, 5, 6.*

SEED-VESSEL: a CAPSULE, thorny, subovate, of two cavities, and four valves, placed on the base of the calyx, *fig. 7.*

SEEDS numerous, somewhat kidney-shaped and blackish.

The Thorn-apple is found occasionally in the environs of London, on dunghills, in cultivated ground, and amongst rubbish; both Mr. RAY and Mr. HUDSON place it amongst the British plants, regarding it at the same time as a doubtful native; following their example, we have figured it in the *Flora Londinensis*, induced thereto from the additional consideration of its being a poisonous plant, and, as such, necessary to be known to our readers.

That it is a native of America, we have the most indubitable proofs: in the earth brought with plants from various parts of that extensive country, we are sure to have the Thorn-apple come up, which we shall not wonder at, after perusing the following extract from KALM's Travels into North-America. "The *Datura Stramonium* grows in great quantities in all the villages; its height is different according to the soil it is in: for, in a rich soil, it grows eight or ten feet high; but, in hard and poor ground, it will seldom come up to six inches. This *Datura*, together with the *Phytolacca*, or American Nightshade, grow here in those places near the gardens, houses, and roads, which in Sweden are covered with Nettles and Goosefoot, which European plants are very scarce in America; but the *Datura* and *Phytolacca* are the worst weeds here, nobody knowing any particular use of them."

There

There is great reason to suppose, that it is also a native of some parts of Europe and Asia.

Authors universally agree in attributing poisonous qualities to the Thorn-apple.—BERGIUS, a modern writer on the Materia Medica, relates, that the narcotic effluvia of the fresh plant affected him so powerfully as he was describing it, that with the smell, and chewing a bit of the plant, he became slightly intoxicated, as if unaccustomed to tobacco he had inhaled its fumes.

A decoction of the herb, seed-vessels, or seeds, have been found to produce different effects in different constitutions, but the symptoms most commonly attendant on taking this plant, are light-headedness, profound sleep, insanity, madness, convulsions, palsy of the limbs, cold sweats, vehement thirst, and tremblings.

HALLER mentions a case in which taking of the seeds proved fatal; they had been administered for those of *Nigella*.

The Chinese are forbid by law from putting it into fermented liquors, with a view to intoxicate.

As the most active poisons, in proper doses skilfully administered, frequently prove efficacious in removing obstinate diseases; so this, as well as several others, has been recommended for such purpose. Dr. STORK, of Vienna, first proposed it as a remedy for those very diseases it is capable of exciting.

An extract made from the expressed juice of the leaves, is acrid and saline to the taste, and yields crystals of nitre on standing. This preparation, given in doses of from one to five grains, twice or thrice a day, is said to be a very powerful remedy in various convulsive and spasmodic diseases, epilepsy and mania. The accounts of other practitioners have confirmed that of the first introducer, and it has been received into some pharmacopeias. An ointment prepared from the leaves, has been found to give ease in external inflammations and hemorrhages.

Emetics and purgatives give the speediest relief in cases where the plant has been inadvertently eaten, which it is sometimes necessary frequently to repeat, as some of the seeds have been found to lodge a considerable time in the stomach.





Solanum nigrum

SOLANUM NIGRUM. GARDEN NIGHTSHADE.

SOLANUM *Linnaei Gen. Pl.* PENTANDRIA MONOGYNIA.

Cor. rotata. Antheræ subcoalitæ, apice poro gemino dehiscentes. Bacca bilocularis.

Raii Syn. Gen. 26. HERBÆ BACCIFERÆ.

SOLANUM *nigrum* caule inermi herbaceo, foliis ovatis dentato-angulatis, racemis distichis nutantibus. *Linnaei Syst. Vegetab. p. 187. Sp. pl. p. 266. Fl. suecic. p. 71. Haller. hist. v. 1. p. 249. n. 576.*

SOLANUM *nigrum, Scopoli Fl. Carniol. p. 258.*

SOLANUM *officinarum, Bauhin pin. p. 166.*

SOLANUM *vulgare, Parkinson. 346*

SOLANUM *hortense, Ger. emac. 339.*

Raii Syn. 254. Hudson, Fl. angl. p. 78. Oeder. Dan. 460.

Tota planta contusa tetrum odorem spirat.

RADIX annua, ramosa, albida.

CAULIS pedalis aut bipedalis, ramosissimus, subangulosus ex foliis decurrentibus, scabriusculus, solidus, ad geniculos paululum incrassatus, obscure viridis, seu ex viridi purpureus presertim ad basin et ad nodos.

RAMI alterni, cauli similes.

FOLIA alterna, longe petiolata, subdecurrentia, ovato-acuta, anguloso-dentata, hirsutie molli.

FLORES subumbellati; PETIOLUS patens ex intermedio nodorum.

CALYX: PERIANTHIUM quinquepartitum, foliolis ovatis persistentibus, fructibus maturis paululum reflexis. *fig. 1.*

COROLLA monopetala, subrotata, alba, laciniis ovato-acutis. *fig. 2.*

STAMINA: FILAMENTA quinque brevissima, villosa, alba *fig. 4*: ANTHERÆ oblongæ, flavæ, subcoalitæ, bilocularis, loculis apice perforatis. *fig. 5.*

PISTILLUM: GERMEN subrotundum, viride *fig. 6*; STYLUS subulatus, viridis, parte inferiore villosa *fig. 7*; STIGMA subrotundum. *fig. 8.*

PERICARPIUM: BACCA rotunda, primum viridis demum nigra, bilocularis *fig. 9.*

SEMINA plurima, reniformia, flavescentia. *fig. 10.*

The whole plant when bruised smells very disagreeably.

ROOT annual, branched, and whitish.

STALK from one foot to two feet high, very much branched, somewhat angular from the leaves running down the stalk, roughish, solid, somewhat swelled at the joints, of a dirty green, or rather a purplish green colour, particularly at bottom and at the joints.

BRANCHES alternate, like the stalk.

LEAVES alternate, standing on long footstalks, slightly running down the stalk, of an oval pointed shape, angularly indented, with a soft hairiness.

FLOWERS growing in a kind of Umbell; FOOTSTALK of the flowers spreading, and arising from the middle of the joint.

CALYX: a PERIANTHIUM divided into five segments, which are oval, continuing, and when the fruit is ripe, turning somewhat back. *fig. 1.*

COROLLA monopetalous, somewhat wheel-shaped, of a white colour, the segments oval and pointed. *fig. 2.*

STAMINA: five very short white hairy FILAMENTS, *fig. 4.* ANTHERÆ oblong, yellow, somewhat united, of two cavities, each having a hole at the top. *fig. 5.*

PISTILLUM: GERMEN roundish, and green *fig. 6*; STYLE tapering, green, the lower part villous; STIGMA roundish. *fig. 8.*

SEED-VESEL: a round berry, first green and afterwards black, of two cavities. *fig. 9.*

SEEDS several, kidney shaped and yellowish. *fig. 10.*

In the year 1757, Mr. GATAKER, Surgeon to the Westminster Hospital, published a treatise on the internal use of *Solanum*, or *Nightshade*; from an apprehension that he had discovered a medicine which, under certain regulations, might with perfect safety be given; and, as he imagined, with great benefit to mankind in many diseases, where the medical practitioner could do little more than sympathize with his distressed patients.

He was induced to make some experiments with the *Nightshades*, from reading an account of a cancerous case cured by the infusion of deadly *Nightshade*; but not being able at that particular season of the year, to procure the deadly *Nightshade*, he was obliged to make use of the dried leaves of the *Solanum nigrum*, or *Garden Nightshade*, here figured, which he found to be very powerful in its operation; even so small a quantity as one grain weight of the leaf, infused in about an ounce of boiling water, would sometimes produce a very considerable effect: but two or three grains seldom fail'd either to vomit, purge, or sweat the patient moderately, or to increase the quantity of urine. It sometimes occasioned a head-ach, giddiness, dimness, and drowsiness; but its most common effects were a heat or warmth diffused over the whole body a few hours after taking the medicine, a plentiful sweat succeeding this heat, and a gentle purging the next day: if a sweat did not break out, an extraordinary discharge of urine was the consequence, which was sometimes followed likewise by a purging: one or more of the natural evacuations were almost always increased. After premising this general account of the action of the medicine, he proceeds to enumerate several cases in which this medicine appeared to him to be efficacious: the principal of these were, two cases of a cancerous nature;—a large ill-conditioned sore of long standing in the leg, attended with fever and inflammation—a violent bruise on the loins and hips;—a swelling, and several painful sores on one leg;—several scrofulous sores in the thigh and foot;—the body covered with scorbutic eruptions;—a malignant corroding ulcer in the back part of the throat;—two cases of Dropsy;—in several cancerous cases where it was made use of, very little advantage was reaped. In most of the above cases, the *Garden Nightshade* was made use of, between which and the *deadly*, he found, as to their effects, very little difference: he found the medicine to act differently on different constitutions; and it was his practice to begin with half a grain of the dried leaf in infusion, increasing the dose according to its effects, and repeating it every second or third night.

He remarks that the *Solanum nigrum* was formerly in use for many diseases; yet there were some who decried the use of it internally: and WEPFER gives an account of three Children poisoned by it: nevertheless some authors mention it as used in food. But surely if an infusion of a few grains of this plant be capable of producing such violent effects on the human body, those authors must have been mistaken.

About the same time, some experiments were also made by Mr. BROMFIELD, Surgeon to St. Georges and the Lock Hospitals; and as the one author seems to have written prejudiced in favour of the Medicine, so the other seems to have had his prejudices against it; for we find the experiments of the latter differing widely from those of the former. According to Mr. BROMFIELD, the symptoms were not only not relieved, but new ones were often brought on, and the patients health rather injured than benefited. In the several cases of inflammation, ulcers, &c. where this medicine had been given, it often occasioned pains in the sores, nausea, complaints of the head, temporary loss of sight, delirium, violent vomitings, gripings and purgings, and even death itself to one person under his own inspection; though the dose of the *Garden Nightshade* did not exceed one grain at a time.

After giving this account, we shall leave it to our readers to determine with what propriety it is disregarded in the present practice; and would just remark, that from the apparently incontestible proofs of its deleterious qualities, persons cannot be too nice in selecting their Pot-herbs, particularly those who make a practice of gathering from Dunghills and Gardens, a species of *Orach*, by some called *Fat-ben*, by others *Lambs-quarters*, &c. as there is some distant similitude betwixt the two plants, and their places of growth are the same.

The figure and description above given, will enable any one to distinguish this plant. It is an annual, flowering in July, and producing its black berries in Autumn, which most probably are also poisonous. It varies in size as well as in the hairiness of its leaves; and the manner of the flowers growing from the middle of each joint is both singular and curious.

SOLANUM NIGRUM L. 1711





Solanum Dulcamara.

SOLANUM DULCAMARA. WOODY NIGHTSHADE.

SOLANUM *Linnaei Gen. Pl.* PENTANDRIA MONOGYNIA.

Raii Gen. 16. HERBÆ BACCIFERÆ.

SOLANUM *Dulcamara* caule inermi frutescente flexuoso, foliis superioribus hastatis, racemis cymosis. *Lin. Sp. Pl.* 264.

SOLANUM Scandens feu Dulcamara *Baubin. Pin.* 176. Amara Dulcis. *Gerard. emac.* 350. Solanum lignosum *Parkinson.* 350. *Raii Synopsis* 265. *Hudson. Flor. Angl.* p. 78. *Scopoli Flor. Carniol.* p. 161. *Haller. hist. Plant. Helv.* p. 248.

RADIX *perennis.*

CAULIS fruticosus, scandens, fistulosus, ramosus, tuberculis parvis subasper, leniter angulosus, orgyalis et ultra.

RAMI alterni, juniores purpurei.

FOLIA petiolata, mollia, venosa, in caulem subdecurentia, *inferiora* ovato-lanceolata, integerrima; *superiora* trilobo-hastata.

FLORE Sin CYMAS racemosas dispositi; pedunculi florales ad basin bulbosi, aut ex acetabulo quasi prodeuntes.

CALYX. PERIANTHIUM monophyllum, parvum, quinquefidum, purpureum, segmentis obtusiusculis, persistens; *fig. 1.*

COROLLA monopetala, rotata; TUBUS brevissimus; LIMBUS quinquepartitus, LACINIIS lanceolatis, purpureis, reflexis; FAUX nigra, nitida, ad basin singulæ laciniae maculæ duæ, virides, *fig. 3—2.*

STAMINA. FILAMENTA quinque, brevissima, tubo corollæ inserta, nigro-purpurea. ANTHERÆ quinque, flavæ, erectæ, in tubum subconicum coalitæ, apicibus biforaminosis, *fig. 4—5.*

PISTILLUM. GERMEN pyriforme; STYLUS subulatus, staminibus paulo longior; STIGMA simplex, obtusum, *fig. 6.*

PERICARPIUM. BACCA ovata, coccinea, glabra, bilocularis, receptaculo utrinque convexo, cui femina adnectuntur, *fig. 8.*

SEMINA plures, lutescentia, compressa, subreniformia, pulpo odoris ingrati oblecta, *fig. 9.*

ROOT *perennial.*

STALK woody, climbing, hollow, branched, thinly beset with small pointed tubercles, slightly angular, and growing to the height of six feet, or more.

BRANCHES alternate, the younger ones purple,

LEAVES standing on foot-stalks, of an oval pointed shape, soft, veiny, running slightly down the stalk, the *lower ones* entire, the *upper ones* halbert shaped.

FLOWERS growing in branched CYMÆ, the proper peduncles of the flowers bulbous at their base, or growing out of a kind of socket.

CALYX a PERIANTHIUM of one leaf, small, and purple, divided into five segments, the segments bluntish, persisting; *fig. 1.*

COROLLA monopetalous, wheel-shaped, the TUBE very short, the limb divided into five segments, the SEGMENTS lancet-shaped, purple, and turning back; the MOUTH black and shining, at the bottom of each segment are two roundish green spots, *fig. 3. 2.*

STAMINA. five FILAMENTS very short, of a black purple colour, and inserted into the tube of the Corolla. Five ANTHERÆ yellow, upright, and uniting into a tube, with two holes at the top of each, out of which the POLLEN is discharged, *fig. 4. 5.*

PISTILLUM. the GERMEN pear-shaped; the STYLE tapering, a little longer than the Stamina; the STIGMA simple and obtuse; *fig. 6.*

PERICARPIUM. an oval, scarlet, smooth BERRY of two cavities, the receptacle to which the seeds are connected, is round, on both sides; *fig. 8.*

SEEDS several, flat, somewhat kidney-shaped; *fig. 9.* of a yellowish colour, inclosed in the pulp, which has a disagreeable smell.

THE Woody Nightshade has been commended as a medicine for many distempers by the old Botanists, in their usually lavish manner; but PARKINSON says, he found the juice of it prove a very churlish purge. LINNÆUS prefers an infusion of the stalk of this plant to any of the foreign woods, as a cleanser of the blood, and recommends it, in inflammatory fevers, obstructions, the itch, and rheumatism; and to render the knowledge of plants as extensively useful as possible, he does not think it beneath him to remark, that the *Swedish* Peasants make hoops of the stalk of this plant to bind their wooden cans. RAY informs us, that the inhabitants of *Westphalia*, who are subject to the scurvy, make use of a decoction of the whole plant as their common drink with success against that distemper.

FLOYER says, that thirty berries of this plant killed a dog in less than three hours, and remained undigested in his stomach; as these berries from their resemblance, may happen by mistake to be eaten for currants by children, it may not be improper to remark, that in such a case, it is adviseable to pour down instantly as much warm water as possible, to dilute the poisonous juice, and provoke vomiting, till farther assistance can be had.

Goats and sheep are said to feed on this plant, but our other cattle, *viz.* kine, horses, and swine, refuse it.

It grows plentifully in moist hedges, and blows from *July* to *August*. The berries are ripe in *September* and *October*. It is sometimes found with a white flower.







Atropa Belladonna.

ATROPA BELLADONNA. DWALE, or DEADLY NIGHTSHADE.

ATROPA *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

Cor. campanulata. Stam. distantia. Bacca globosa, 2-locularis.

Raii Syn. Gen. 16. Herbæ Bacciferae.

ATROPA *Belladonna* caule herbaceo, foliis ovatis integris. *Lin. Syst. Vegetab. ed. 14. p. 221. Sp. Plant. p. 260.*

BELLADONNA caule herbaceo, brachiato, foliis ovato lanceolatis, integerrimis. *Haller. hist. n. 579.*

BELLADONNA *trichotoma. Scopoli Fl. Carn. n. 255.*

SOLANUM *melanocerasus. Bauh. pin. 166.*

SOLANUM *lethale. Ger. emac. 340. Parkins. 346. Raii Syn. p. 265. Deadly Nightshade, Dwale. Hudson Fl. Angl. p. 93. Lightfoot Fl. Scot. p. 144. Jacquin Fl. Austr. t. 309.*

RADIX perennis, crassa, albida, ramosa, repens.

CAULES plures, basi digitum crassi, tripedales et ultra, erecti, herbacei, teretes, ramosi, in apicis sordide purpurei, pubescentes.

FOLIA petiolata, ovata, acuta, integerrima, utrinque lævia, venosa, ad latera caulis ramorumque gemina et magnitudine inæqualia, inter quæ pedunculus uniflorus et sæpius solitarius egreditur.

PEDUNCULI teretes, viscid, ad flores paululum incrassati.

FLORES cernui, inodori, sordide purpurei, subviscid, externe nitidi, venosi.

CALYX: PERIANTHIUM monophyllum, quinquepartitum, angulatum, laciniis ovato-acuminatis, inæqualibus, viscosis, fig. 1.

COROLLA monopetala, campanulata; *Tubus brevissimus, albus, subpentagonus; Limbus ventricosus, ovatus, ore quinquesido, patulo, laciniis subæqualibus, fig. 2.*

STAMINA: FILAMENTA quinque, albida, quorum duo paulo breviora, inferne paulo crassiora, pilosa, apice incurva, longitudine tubi; ANTHERÆ magnæ, didymæ, lutescentes, remotæ, fig. 3.

PISTILLUM: GERMEN femiovatum, utrinque sulcatum, ad basin glandula lutescente cinctum; STYLUS filiformis, staminibus longior, inclinatus; STIGMA capitatum, affurgens, transverso-oblongum, bilabiatum, viride, fig. 4.

PERICARPIUM: BACCA atra, nitida, subrotunda, saporis dulcis, bilocularis, fig. 5, 6.

SEMINA plurima, fusca, irregularia, fig. 7.

Obs. Semina fuscescunt priusquam Bacca nigrescit.

ROOT perennial, thick, whitish, branched, and creeping.

STALKS several, at bottom the thickness of one's finger, three feet or more high, upright, herbaceous, round, branched, in exposed situations of a dingy purple colour, downy.

LEAVES standing on footstalks, ovate, pointed, perfectly entire, smooth on both sides, veiny, growing in pairs (but unequal in size) from the sides of the stalks, from betwixt them rises the flower-stalk supporting one flower, and usually single.

FLOWER-STALKS round, viscid, thickened somewhat next the flowers.

FLOWERS drooping, scentless, of a dingy purple colour, somewhat viscid, externally glossy and veiny.

CALYX: a PERIANTHIUM of one leaf, deeply divided into five segments, angular, the segments ovato-acuminate, unequal, and viscid, fig. 1.

COROLLA monopetalous, bell-shaped; *Tube* very short, white, slightly five-cornered: *Limb* bellying out, ovate, mouth spreading, divided into five equal segments, fig. 2.

STAMINA: five FILAMENTS, whitish, two of which are a little shorter than the rest, somewhat thickest towards the base, and hairy, bent down at top, the length of the tube; ANTHERÆ large, double, yellowish, and remote, fig. 3.

PISTILLUM: GERMEN femiovate, with a groove on each side, surrounded at bottom with a yellowish gland; STYLE thread-shaped, longer than the stamens, inclined downwards; STIGMA forming a little head, transversely oblong, two-lip'd, of a green colour, fig. 4.

SEED-VESSEL: a black, glossy, roundish BERRY, of a sweet taste, with two cavities, fig. 5, 6.

SEEDS numerous, brown, and irregular in shape, fig. 7.

Obs. The seeds turn brown before the Berry becomes black.

The rage for building, joined to the numerous alterations perpetually making in the environs of London, have been the means of extirpating many plants which formerly grew plentifully around us. To this cause we are to attribute the loss of the present plant, which the late Sir WILLIAM WATSON and Mr. STANESBY ALCHORNE of the Tower, gentlemen eminent for their knowledge of British plants, have often assured me grew, within their remembrance, in several places near town; happily we are now under the necessity of going much further into the country, if we wish to see it grow wild. We have frequently noticed it in many of the chalk-pits in Kent, and in both shady and exposed situations elsewhere; in particular, we remember to have seen it growing in great abundance on Keep-Hill, near High Wycomb, Buckinghamshire. Close by the spot where we observed it, there chanced to be a little boy; I asked him, if he knew the plant? He answered "Yes; it was *naughty man's cherries*." I then inquired of him, if he had ever eaten any of the berries? He said he had, with several other children from an adjoining poor-house, and that it made them all very sick, but that none of them had died.

Was not this plant studiously destroyed wherever it is found wild, it would be much more common than it is; for there are few plants to which nature has been so liberal in the means of increase: it has a very large perennial root, which runs deep into the earth, multiplies greatly, and frequently creeps under ground to a great distance; added to this, its berries are very numerous, and contain a prodigious quantity of seeds.

Forbidding

Forbidding as this plant may appear to some, its large glossy berries are certainly a great temptation to children; and, therefore, gentlemen, if they have the plant in their gardens, should never suffer it to ripen its fruit.

It flowers in June and July; its berries are ripe in August and September.

Numerous instances of the pernicious, and even deleterious effects of the deadly Nightshade are on record; among others, such of our readers as are fond of history will not be displeased with the prolixity of the following account taken from *Blair's Pharmaco-Botanologia*, p. 81.

"The *Solanum Lethale* seems to produce the same effects with the *Hyoscyamus*, *Cynoglossum*, and other intense Narcoticks, which usually, before they affect the person with sleep, produce delirious and maniacal symptoms; however it is an herb of so pernicious a nature, that scarce any Author who treats of it fails, from proper observation, or good information, to give dismal instances of its bad effects. *Simon Pauli* refers us to *Lobelius* his *Adversaria*, and *Bodeus à Stapel*. Mr. Ray's account of what happened to a Mendicant Friar, upon the taking a glass of the infusion of it in mallow wine, gives a good account of the various symptoms it produces. In a short time, he became delirious, after a little (Cachinne) a grinning laughter like the *Risus Sardonicus* succeeded; after that several irregular motions; and at last a real madness, and such a stupidity as those that are foolishly drunk have: which after all was cured by a draught of vinegar. Mr. Miller mentions several Children at Croydon, who not long since were poisoned. Another instance of its bad effects has fallen under my own observation: two or three persons not far from hence, having got into a gentleman's garden, were delighted with the black berries of the *Solanum Lethale*, and eat some of them; it was very pleasant (within a short time after) to see their frantic humours, gestures, and speeches: but upon their taking of emeticks in due time, they were cured. It is worthy of recital what Mr. Ray tells us happened to a Lady of Quality of his acquaintance, who having a small ulcer a little below her eye, which she suspected to be cancerous; she applied a bit of the leaf of this *Solanum*, which so relaxed the *Tunica Uveæ* in one night, that she could not contract the *Pupilla* the next day, so that the *Pupilla* of the one eye was four times as big as the other; and upon the removal of the leaf, the fibres recovered their muscular tone by degrees: and, lest this should seem to be merely accidental, she repeated the experiment three times, at which Mr. Ray himself was present.

"But the most memorable instance of the direful effects of this Plant is to be seen recorded by the celebrated *Buchanan*, in his History of Scotland, by which we may observe how the Almighty God can convert the most deadly poisons into the fittest antidotes, for those whom he has a mind to preserve. This obliges me to make a digression, not altogether unsuitable, since it gives the botanical description of a Plant, writ about a hundred and fifty years ago, by one who himself was no professed Botanist, the use made of it, and the wonderful effects it produced.

"In the reign of *Duncan I. King of Scotland* (who was afterwards murdered by *Mackbeth the Tyrant*) *Harold the Dane* invaded England, not long before the days of *King William the Conqueror*: *Sveno*, his brother, at the same time invaded Scotland. Upon his landing in Fife, he obtained a signal victory, which obliged the King of Scotland, with the remainder of his routed forces, to retire to *Bertha* (an ancient town of great note situated on the river *Tay*, which was not long after destroyed by an inundation, and out of whose ruins the town of *Perth* was built, and now stands upon the same river, two miles nearer the sea) and pursued them so closely, that he laid siege to the town both by land and water. The Scots were put to great straits, not for want of provisions, but for want of men to repel the besiegers. King *Duncan* was a peaceable unactive man; he had sometime before committed the government to the management of *Bancho*, of a cunning and subtle wit; and to *Mackbeth*, of a fierce, bold, aspiring spirit. *Mackbeth* went to the country to raise a reinforcement, while *Bancho* treated with the enemy, and first obtained a cessation of arms, and then spun out time by framing of articles of peace. The Danes wanted provisions, but abounded with men; the Scots abounded in provisions, but wanted men. The truce was equally acceptable to both, especially to the Danes, who for the present expected plenty of all things, and for the future the conquest of a whole kingdom. Care was immediately taken by the Scots to afford them all manner of liquors, both wine and ale, and they continued to mix with them a good quantity of the Deadly Nightshade (this *Solanum Lethale*, or *Somniferum*) of which we now treat. The bait took; the Danes drank plentifully, and were all intoxicated: mad with this poisonous juice, and asleep through drunkenness, the Scots fell upon them, killed the most part, and, with much ado, a few remaining got to their vessels, while their besotted King was carried, like a sack-load, upon a beast down to the river, where there were scarce sailors enough saved from the slaughter to man the vessels."

DEERING relates, that a friend of his, a Dr. *Medley*, has several times eaten three or four of the berries, without receiving any hurt: and *HALLER* mentions his having seen a medical student swallow several. It is probable that these berries will not kill, unless many are eaten, but perhaps this poison, like many others, may act differently on different constitutions.

Vinegar has been recommended as an antidote to its poison; but powerful evacuations, particularly vomiting, are most to be depended on. In cases where a poison of this kind is known to have been swallowed, the medical practitioner will be justified in a bold practice, for his patient is not only in a very dangerous situation, but the effect of emeticks has been known to be lessened by the poison, so that fourteen grains of Emetick Tartar have been scarcely sufficient to excite vomiting.

Many substances, which in large quantities, or injudiciously administered, have proved poisonous, in small doses, skilfully exhibited, have been found extremely efficacious in the cure of diseases, and hence this, as well as other plants have been tried, particularly in such disorders as have no impression made on them by common remedies; but after numerous trials, there appears but little hopes of success from the *Atropa Belladonna*.

Such as wish to know the particular diseases against which the Deadly and the Garden Nightshades have been directed, with the various symptoms they have produced on being taken, may consult *GATAKER'S Observations on the Internal Use of the Nightshade, with the Supplement*; and *BROMFIELD'S Account of the English Nightshades, and their Effects*, 1757.

We have seen a goat eat, without injury, the leaves and stalks; and the caterpillar of the *Phalæna Antiqua*, *Roesel* t. 39, and *Brassicæ Roesel* t. 29, feed on its foliage.



*Samolus**Valerandi.*

SAMOLUS VALERANDI. ROUND-LEAVED WATER-PIMPERNEL.

SAMOLUS *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

Cor. hypocrateriformis. *Stamina* munita squamulis corollæ. *Caps.* unilocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

SAMOLUS *Valerandi.* *Lin. Syft. Vegetab.* p. 177. *Sp. Pl.* p. 243. *Fl. Suec.* n. 192.

SAMOLUS. *Haller Hist.* n. 707.

ANAGALLIS aquatica, rotundo folio non crenato. *Baubin. Pin.* 252.

SAMOLUS *Valerandi.* *Baub. Hist.* 3. p. 791.

ALSINE aquatica, foliis rotundis becabungæ. *Morif. Hist.* 2. p. 323. f. 3. t. 24. f. 28.

ANAGALLIS aquatica rotundifolia. *Ger. emac.* 620.

ANAGALLIS aquatica tertia *Lobelii* folio subrotundo non crenato. *Parkins.* p. 1237. *Raii Syn.* 283. Round-leaved Water-Pimpernel. *Hudson. Fl. Angl.* ed. 2. p. 94. *Lightfoot Fl. Scot.* p. 142. *Oeder Fl. Dan. icon.* 198.

RADIX perennis, fibrosa, alba.

CAULIS dodrantalis, aut pedalis, erectus, rigidulus, teres, glaber, plerumque ramosus.

FOLIA alterna, petiolata, ovata, obtusa, integerrima, nitida, venis paucis, remotis, notata.

PETIOLI breves, lati.

FLORES parvi, albi, spicati.

PEDUNCULI plurimi, sparsi, suberecti, uniflori, teretes, bractæa lanceolata medio instructi.

CALYX: PERIANTHIUM quinque-partitum, superum, basi obtusum, laciniis erectis, persistentibus. *fig. 1.*

COROLLA monopetala, hypocrateriformis. *Tubus* brevissimus, longitudine calycis, patulus. *Limbus* planus, quinque-partitus, obtusus. *Squamulae* quinque, brevissimæ, ad basin sinus limbi, conniventes, *fig. 2, 3.*

STAMINA: FILAMENTA quinque, brevia, infra laciniam corollæ singula. ANTHERÆ conniventes, luteæ, intra tubum corollæ. *fig. 4.*

PISTILLUM: GERMEN inferum. STYLUS filiformis, longitudine fere staminum. STIGMA capitatum. *fig. 5.*

PERICARPIUM: Capsula subrotunda, calyce cincta, unilocularis, ore quinquedentato, dentibus reflexis. *fig. 6.*

SEMINA plurima, exigua, nigra. Receptaculum globosum, magnum. *fig. 7, 8.*

ROOT perennial, fibrous, and white.

STALK a span or a foot in height, upright, somewhat rigid, round, smooth, and generally branched.

LEAVES alternate, standing on foot-stalks, ovate, obtuse, perfectly entire, shining, marked with few veins, and those distant.

LEAF-STALKS short, and broad.

FLOWERS small, white, growing in spikes.

FLOWER-STALKS numerous, placed in no regular order, nearly upright, each supporting one flower, round, having a small pointed floral-leaf growing from the middle of each.

CALYX: a PERIANTHIUM deeply divided into five segments, placed above the germen, blunt at the base, the segments upright and permanent. *fig. 1.*

COROLLA monopetalous, salver-shaped. *Tube* very short, the length of the calyx, open. *Limb* flat, deeply divided into five segments, which are obtuse; five very short *Scales* which close inward, are situated at the mouth of this tube. *fig. 2, 3.*

STAMINA: five short FILAMENTS placed beneath each segment of the corolla. ANTHERÆ closing together, of a yellow colour, within the tube of the corolla. *fig. 4.*

PISTILLUM: GERMEN beneath the calyx. STYLE thread-shaped, nearly the length of the stamina. STIGMA forming a little head. *fig. 5.*

SEED-VESSEL: a roundish *Capsule*, covered by the calyx, of one cavity, the mouth having five teeth, which turn back. *fig. 6.*

SEEDS numerous, small and black. *Receptacle* round and large. *fig. 7, 8.*

Of this genus there is at present only one known species, and that an inhabitant of every quarter of the globe: nevertheless, it is found but sparingly with us; but may with certainty be met with on the edges of the wet ditches about *Woolwich*, *Charlton*, and *Greenwich*, more particularly in the road leading from *New-croft* Turnpike to the *Island of St. Helena*, *Rotherhithe*.

It flowers in *July*.

No particular uses are attributed to it.





Lonicera Periclymenum.

LONICERA *PERICLYMENUM*. HONEY SUCKLE or WOODBINE.

LONICERA *Linnaei* Gen. Pl. PENTANDRIA MONOGYNIA.

Raii Synopsis. ARBORES ET FRUTICES FRUCTU FLORI PFTALOIDI CONTIGUO.

LONICERA capitulis ovatis imbricatis terminalibus, foliis omnibus distinctis. *Lin. Sp. Pl.* 247.

PERICLYMENUS *Fuschii* Icon 646.

PERICLYMENUM non perfoliatum Germanicum. *Baubin pin.* 302.

CAPRIFOLIUM Germanicum *Dodon. Gerard. emac.* 891. *Parkinson.* 1460. *Raii Synop.* 458. *Hudson Fl.* 80.

Haller. hist. 301. *Scopoli Fl. Carniol.* p. 153.

CAULIS lignosus, volubilis, orgyalis et ultra; cortice pallide fusco; RAMI oppositi, purpurei.

FOLIA opposita, ovata, glabra, subtus cærulescentia.

FLORES terminales, verticillatim dispositi, patentes, rubri, interne flavi, odoratissimi.

CALYX PERIANTHIUM superum, brevissimum, quinquepartitum; segmentis ovato-lanceolatis, erectis, duobus inferioribus remotioribus. *fig. 1.*

BRACTEÆ subcordatæ, *fig. 8.* germina imbricatim cingentes, ad marginem præcipue scabræ, ut sunt calyx, et tubi basis pilis glanduliferis.

COROLLA monopetala, tubulosa, TUBUS oblongus, subinfundibuliformis, LIMBUS bipartitus, lacinis revolutis, superiore quadrifida, segmentis fere æqualibus, obtusis, inferiore integra. *fig. 2.*

STAMINA: FILAMENTA quinque filiformia, corolla longiora, alba, tubo corollæ inserta; *fig. 3.* ANTHERÆ dum pollinem involvunt oblongæ, incumbentes, postea lunatæ. *fig. 4.*

PISTILLUM: GERMEN subrotundum, inferum, *fig. 5.* STYLUS filiformis, staminibus paulo longior, *fig. 6.* STIGMA capitatum, subrotundum, trifidum, viride. *fig. 7.*

PERICARPIA: BACCÆ plures, subrotundæ, rubræ, umbilicatæ, biloculares, omnes distinctæ. *fig. 9.*

SEMINA Plura, lutescentia, hinc convexa inde plana. *fig. 10.*

STALK woody, twining, growing to the height of six feet or more, the Bark a pale brown, the BRANCHES opposite and purple.

LEAVES opposite, oval, smooth, underneath of a blueish colour.

FLOWERS terminal, growing in a whirl, and spreading; externally red, internally yellow, and fragrant.

CALYX a *Perianthium* placed above the Germen, very short, divided into five segments, which are of an oval pointed shape, and upright, the two inferior ones most remote from each other. *fig. 1.*

FLORAL LEAVES laying one over the other, and closely embracing the Germina, reddish at the edges and cover'd as well as the Calyx and base of the tube with glandular hairs. *fig. 8.*

COROLLA monopetalous, and tubular, the TUBE long, and somewhat funnel shaped, the LIMB bipartite, the lacinia rolling back, the upper one divided into four blunt and nearly equal segments, the lower one entire. *fig. 2.*

STAMINA: five white FILAMENTS, of an equal thickness throughout, longer than the Corolla and inserted into its tube, *fig. 3.* the ANTHERÆ while they contain the Pollen oblong, afterwards semilunar and of a yellow colour. *fig. 4.*

PISTILLUM: the GERMEN roundish and placed below the Calyx, *fig. 5.* the STYLE filiform, a little longer than the Stamina, *fig. 6.* the STIGMA roundish, trifid, and of a green colour. *fig. 7.*

SEED VESSELS several roundish red BERRIES, having the remains of the Calyx adhering to them, and all distinct. *fig. 9.*

SEEDS several, of a yellowish brown colour, round on one side and flattish on the other. *fig. 10.*

The early writers attributed virtues to this officinal plant which the latter have been inclined to give up, as a medicine we must not expect much from it, but the beauty, singularity, and exquisite fragrance of its flowers have long given it a place in our Gardens. It is a Climber and turns from East to West with most of our other English Climbers, and in common with them it bears clipping and pruning well; for in a state of nature those plants that cannot ascend without twining round others are often liable to lose large branches, they have therefore a proportional vigour of growth to restore accidental damages. This plant is subject when placed near Buildings to be disfigured and injured by small insects called Aphides or vulgarly blights, these Animalculæ were formerly supposed to be brought by the East Wind, and consequently the mischief was looked upon as inevitable, but observation has of late years corrected that Error, their history is well known*, but no effectual remedy against them is as yet discover'd. These Insects are not very numerous in Spring, but as the Summer advances they encrease in a surprising degree; to preserve the plant therefore from injury it is necessary to watch their first attacks, cut off and destroy the branches they first appear on, for when they have once gained ground they are defended by their numbers. We have seen small plants cleared of them by sprinkling spanish snuff on the infected branches, but for large trees this remedy is scarcely practicable. The leaves are likewise liable to be curled up by a small caterpillar (*Phalæna Tortrix Linnaei*) which produces a beautiful little Moth, see *Albins history of english Insects* pl. 73. It is fed on by Kine, Goats, and Sheep, but Horses refuse it.

To shew the confusion of antient names it may not be improper to mention that this plant and Woodroffe (*Asperula odorata*) have been both called *Matrifylva* by the old botanic writers. Our Poets also have strangely confounded the names of this plant, *SHAKESPEAR* says

*So doth the WOODBINE the sweet HONEYSUCKLE
Gently entwine*

MILTON seems to call this plant *Eglantine* although that is an undoubted name for the *Sweet Briar*
*Through the SWEET BRIAR or the Vine
Or the TWISTED EGLANTINE.*

We find it plentifully in Woods and Hedges flowering from July to September, such plants as grow in shady places produce blossoms of a paler colour, and they universally smell sweetest in the Evening; at which time some particular Species of Sphinges (*Linnaei*) or Hawk Moths are frequently observed in Gardens hovering over the blossoms and with their long tongues which are peculiarly adapted to the purpose, extracting honey from the very bottom of the flowers.

* *Vid Reaumur and Geoffroy.*



Lonicera Periclymenum.

LONICERA PERICLYMENUM. HONEY SUCKLE or WOODBINE.

LONICERA *Linnaei Gen. Pl.* PENTANDRIA MONOGYNIA.

Raii Synopsis. ARBORES ET FRUTICES FRUCTU FLORI PFTALOIDI CONTIGUO.

LONICERA capitulis ovatis imbricatis terminalibus, foliis omnibus distinctis. *Lin. Sp. Pl.* 247.

PERICLYMENUS *Fuschii Icon* 646.

PERICLYMENUM non perfoliatum Germanicum. *Baubin pin.* 302.

CAPRIFOLIUM Germanicum *Dodon. Gerard. emac.* 891. *Parkinson.* 1460. *Raii Synop.* 458. *Hudson Fl.* 80.

Haller. hist. 301. *Scopoli Fl. Carniol.* p. 153.

CAULIS lignosus, volubilis, orgyalis et ultra; cortice pallide fusco; RAMI oppositi, purpurei.

FOLIA opposita, ovata, glabra, subtus cærulescentia.

FLORES terminales, verticillatim dispositi, patentes, rubri, interne flavi, odoratissimi.

CALYX PERIANTHIUM superum, brevissimum, quinquepartitum; segmentis ovato-lanceolatis, erectis, duobus inferioribus remotioribus. *fig. 1.*

BRACTEÆ subcordatæ, *fig. 8.* germina imbricatim cingentes, ad marginem præcipue scabræ, ut sunt calyx, et tubi basis pilis glanduliferis.

COROLLA monopetala, tubulosa, TUBUS oblongus, subinfundibuliformis, LIMBUS bipartitus, lacinii revolutis, superiore quadrifida, segmentis fere æqualibus, obtusis, inferiore integra. *fig. 2.*

STAMINA: FILAMENTA quinque filiformia, corolla longiora, alba, tubo corollæ inserta; *fig. 3.* ANTHERÆ dum pollinem involvunt oblongæ, incumbentes, postea lunatæ. *fig. 4.*

PISTILLUM: GERMEN subrotundum, inferum, *fig. 5.* STYLUS filiformis, staminibus paulo longior, *fig. 6.* STIGMA capitatum, subrotundum, trifidum, viride. *fig. 7.*

PERICARPIA: BACCÆ plures, subrotundæ, rubræ, umbilicatæ, biloculares, omnes distinctæ. *fig. 9.*

SEMINA Plura, lutescentia, hinc convexa inde plana. *fig. 10.*

STALK woody, twining, growing to the height of six feet or more, the Bark a pale brown, the BRANCHES opposite and purple.

LEAVES opposite, oval, smooth, underneath of a blueish colour.

FLOWERS terminal, growing in a whirl, and spreading; externally red, internally yellow, and fragrant.

CALYX a *Perianthium* placed above the Germen, very short, divided into five segments, which are of an oval pointed shape, and upright, the two inferior ones most remote from each other. *fig. 1.*

FLORAL LEAVES laying one over the other, and closely embracing the Germina, reddish at the edges and cover'd as well as the Calyx and base of the tube with glandular hairs. *fig. 8.*

COROLLA monopetalous, and tubular, the TUBE long, and somewhat funnel shaped, the LIMB bipartite, the lacinia rolling back, the upper one divided into four blunt and nearly equal segments, the lower one entire. *fig. 2.*

STAMINA: five white FILAMENTS, of an equal thickness throughout, longer than the Corolla and inserted into its tube, *fig. 3.* the ANTHERÆ while they contain the Pollen oblong, afterwards semilunar and of a yellow colour. *fig. 4.*

PISTILLUM: the GERMEN roundish and placed below the Calyx, *fig. 5.* the STYLE filiform, a little longer than the Stamina, *fig. 6.* the STIGMA roundish, trifid, and of a green colour. *fig. 7.*

SEED VESSELS several roundish red BERRIES, having the remains of the Calyx adhering to them, and all distinct. *fig. 9.*

SEEDS several, of a yellowish brown colour, round on one side and flattish on the other. *fig. 10.*

The early writers attributed virtues to this officinal plant which the latter have been inclined to give up, as a medicine we must not expect much from it, but the beauty, singularity, and exquisite fragrance of its flowers have long given it a place in our Gardens. It is a Climber and turns from East to West with most of our other English Climbers, and in common with them it bears clipping and pruning well; for in a state of nature those plants that cannot ascend without twining round others are often liable to lose large branches, they have therefore a proportional vigour of growth to restore accidental damages. This plant is subject when placed near Buildings to be disfigured and injured by small insects called Aphides or vulgarly blights, these Animalculæ were formerly supposed to be brought by the East Wind, and consequently the mischief was looked upon as inevitable, but observation has of late years corrected that Error, their history is well known*, but no effectual remedy against them is as yet discover'd. These Insects are not very numerous in Spring, but as the Summer advances they encrease in a surprising degree; to preserve the plant therefore from injury it is necessary to watch their first attacks, cut off and destroy the branches they first appear on, for when they have once gained ground they are defended by their numbers. We have seen small plants cleared of them by sprinkling spanish snuff on the infected branches, but for large trees this remedy is scarcely practicable. The leaves are likewise liable to be curled up by a small caterpillar (*Phalæna Tortrix Linnaei*) which produces a beautiful little Moth, see Albins history of english Insects pl. 73. It is fed on by Kine, Goats, and Sheep, but Horses refuse it.

To shew the confusion of antient names it may not be improper to mention that this plant and Woodrose (*Asperula odorata*) have been both called *Matrifylva* by the old botanic writers. Our Poets also have strangely confounded the names of this plant, SHAKESPEAR says

*So doth the WOODBINE the sweet HONEYSUCKLE
Gently entwine*

MILTON seems to call this plant *Eglantine* although that is an undoubted name for the *Sweet Briar*
*Through the SWEET BRIAR or the Vine
Or the TWISTED EGLANTINE.*

We find it plentifully in Woods and Hedges flowering from July to September, such plants as grow in shady places produce blossoms of a paler colour, and they universally smell sweetest in the Evening; at which time some particular Species of Sphinges (*Linnaei*) or Hawk Moths are frequently observed in Gardens hovering over the blossoms and with their long tongues which are peculiarly adapted to the purpose, extracting honey from the very bottom of the flowers.

* Vid Reaumur and Geoffroy.





Campanula rotundifolia.

CAMPANULA ROTUNDIFOLIA. HEATH BELL-FLOWER.

CAMPANULA *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

Cor. campanulata, fundo clauso valvis staminiferis. *Stigma* trifidum.
Caps. infera, poris lateralibus dehiscens.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

CAMPANULA *rotundifolia* foliis radicalibus reniformibus, caulinis linearibus. *Lin. Syst. Vegetab.* p. 173.
Sp. Plant. p. 232. *Fl. Suec.* n. 184.

CAMPANULA foliis ferratis, radicalibus cordatis, caulinis lanceolatis. *Haller. Hist.* 701.

CAMPANULA *rotundifolia*. *Scopoli Fl. Carn.* n. 124.

CAMPANULA *minor* *rotundifolia* vulgaris. *Bauhin pin.* 93.

CAMPANULA *rotundifolia*. *Ger. emac.* 452.

CAMPANULA *minor sylvestris rotundifolia*. *Parkinson* 651. *Raii Syn.* p. 277. The lesser round-leaved Bell-flower. *Hudson. Fl. Angl. ed. 2.* p. 95. *Lightfoot Fl. Scot.* p. 141.

RADIX alba, crassiuscula, modice fibrosa, subdulcis, repens.	ROOT white, thickish, moderately fibrous, sweetish, and creeping.
CAULES ex una radice plures, pedales et ultra, sub-erecti, debiles, flexuosi, teretes, glabri, solidi, lactescentes, ramosi.	STALKS; from the same root several, a foot or more in height, somewhat upright, but weak and crooked, round, smooth, solid, milky, and branched.
FOLIA radicalia cordato-reniformia, petiolata, dentato-ferrata, caulina prope basin lanceolata, dentata, summa linearia, integerrima.	LEAVES of the root somewhat heart or kidney shaped, standing on footstalks, toothed, or sawed, those of the stalk near the base lanceolate and toothed, near the summit linear and entire.
RAMI floriferi, patuli, simplices seu ramosi, subnudi.	FLOWER-BRANCHES spreading, simple or branched, almost naked.
FLORES perfecte campanulati, cærulei, parum nutantes.	FLOWERS perfectly bell-shaped, of a blue colour, and drooping a little.
CALYX: PERIANTHIUM quinquepartitum, erectum, glabrum, fulcatum, persistens, laciniis linearibus. <i>fig. 1.</i>	CALYX: a PERIANTHIUM divided into five segments, upright, smooth, grooved, permanent, the segments linear. <i>fig. 1.</i>
COROLLA monopetalata, campanulata, limbo quinquefido, laciniis acutis, patentibus. <i>fig. 2.</i>	COROLLA monopetalous, bell-shaped, divided into five segments at the brim, which are pointed and spreading. <i>fig. 2.</i>
STAMINA: FILAMENTA quinque, capillaria, brevissima, inserta valvularum nectarii apicibus; ANTHERÆ filamentis longiores, compressæ, primo purpurascens, dein fusca. <i>fig. 3, 4, 5.</i>	STAMINA: five very fine, short FILAMENTS inserted into the tips of the valves of the nectary; ANTHERÆ longer than the filaments, flattened, at first purplish, afterwards brown. <i>fig. 3, 4, 5.</i>
PISTILLUM: GERMEN inferum, fulcatum; STYLUS filiformis; STIGMA tripartitum, oblongum, crassiusculum, externe villosum, laciniis revolutis. <i>fig. 6, 7, 8.</i>	PISTILLUM: GERMEN beneath the calyx, grooved; STYLE thread-shaped; STIGMA oblong, thickish, externally villous, divided into three segments which are rolled back. <i>fig. 6, 7, 8.</i>
NECTARIUM in fundo corollæ, constructum valvulis quinque, acutis, conniventibus, receptaculum tegentibus. <i>fig. 5.</i>	NECTARY in the bottom of the corolla, formed of five pointed valves closing and covering the receptacle. <i>fig. 5.</i>

When the *Campanula rotundifolia* grows among herbage, its radical leaves, which are of a roundish figure, at least compared with most of the plants of the same genus, are seldom observed, unless particularly sought for, while those of the stalk are seen by every one to be linear; hence the name of *rotundifolia* to most beginners appears absurd. LINNÆUS in giving it this name has followed the antient Botanists, as will appear from consulting the synonyms.

This plant, as well as the *Epilobium angustifolium*, points out to the student the necessity of attending to the following botanic axiom, *those blossoms which are on the point of expansion shew the structure of the stamina to the most advantage, as those which are overblown do that of the stigma.*

Subject to the same variation in point of size with all other plants, it may be found from * two inches to a yard in height, its radical leaves in certain situations are found without any notches, in which case it is more truly *rotundifolia*; its blossoms also vary in their colour, being sometimes found white and sometimes purple.

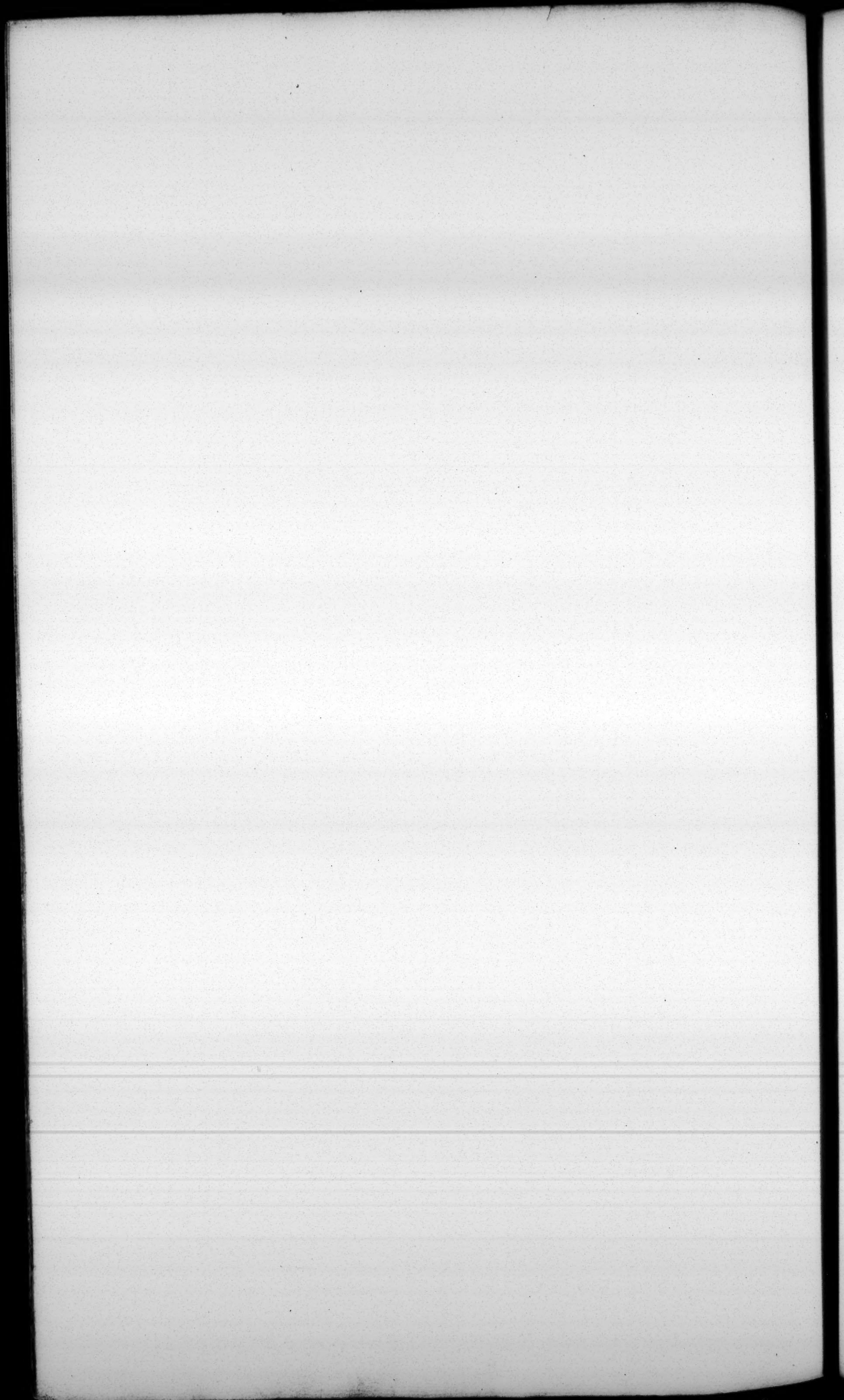
The stalks and branches, when broken, give out a milky juice, which has a disagreeable smell.

It grows plentifully on heaths, and by the road sides in barren hilly situations, and flowers from June to September.

Having a perennial and a creeping root it is easily cultivated in the Garden.

LINNÆUS says a green pigment is prepared from the flowers, but does not inform us in what manner.

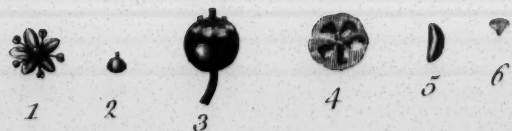
* Mr. Lightfoot found it of that height in Scotland.







Hedera Helix.



HEDERA HELIX. IVY.

HEDERA *Linnaei Gen. Pl.* PENTANDRIA MONOGYNIA. *Petala* quinque oblonga. *Bacca* quinquesperma calyce cincta.

Raii Syn. ARBORES ET FRUTICES FRUCTU FLORI PETALOIDI CONTIGUO.

HEDERA *Helix* foliis ovatis lobatisque. *Linn. Syst. Vegetab. p.* 202. *Sp. Pl.* 292. *Fl. Suecic. p.* 75.

HEDERA foliis sterilibus trilobatis, fructiferis ovato-lanceolatis. *Haller hist. helv. n.* 826.

HEDERA *Helix. Scopoli Fl. Carniol. n.* 271. *Hudson Fl. Angl p.* 85.

HEDERA arborea. *Baubin. Pin.* 305.

HEDERA poetica. *Baubin. Pin.* 305.

HEDERA major sterilis. *Baubin. Pin.* 305.

HEDERA humi repens. *Baubin. Pin.* 305.

HEDERA arborea five scandens et corymbosa communis. *Parkinson* 678.

HEDERA *Helix Ger. Em.* 858. *Raii Syn.* 459. Climbing or Berried Ivy: also Barren or Creeping Ivy.

TRUNCUS in arboribus hujus speciei senescentibus cortice rimoso cinereo vestitur, in novellis ramis viridis aut purpureus cernitur, fibrillas e latere interiori exerit, quorum ope proximis arboribus aut parietibus innixus alta petit.

FOLIA quam maxime varia, dum planta repit plerumque trilobata, quinquelobata etiam occurrunt; adnuculis derelictis, ovata fiunt; glabra, nientia, nunc rubedine ornata, nunc venis albis picta, presertim in ramulis junioribus.

FLORES lutescentes, in summitatibus caulium umbellatim dispositi, UMBELLÆ densæ, globosæ.

COROLLA: quinque, ovata, flavescentia, patentia.

STAMINA: FILAMENTA quinque longitudine Corollæ; ANTHERÆ basi bifidæ, incumbentes, fig. 1.

PISTILLUM: GERMEN turbinatum; STYLUS simplex, brevissimus; STIGMA simplex, fig. 2.

PERICARPIUM: BACCA globosa, nigra, intus purpurea, quadrilocularis aut quinquelocularis, coronata receptaculo et stylo conico brevi, loculis monospermis, fig. 3, 4.

SEMINA quinque, hinc gibba, inde angulata, fig. 6.

TRUNK; the trunk in trees of this species, which are old, is covered with an ash-coloured chopped bark, in the young branches it is of a green or purple colour; from the inside of the trunk a great number of small fibres are thrown out, by the assistance of which, it supports itself on the nearest walls and trees, and climbs aloft.

LEAVES as various as possible, while the plant creeps they are in general trilobate, sometimes quinquelobate, leaving its supporters, they become oval; smooth, shining, sometimes ticked with red, sometimes painted with white veins, particularly in the young branches.

FLOWERS yellowish, growing on the top of the stalks in thick round UMBELS,

COROLLA: PETALS five, oval, yellowish and spreading.

STAMINA: five FILAMENTS the length of the Corolla; ANTHERÆ bifid at bottom, and incumbent, fig. 1.

PISTILLUM: GERMEN roundish; STYLE simple and very short; STIGMA simple, fig. 2.

SEED-VESSEL: a round BERRY, externally black, internally purple, with four or five cavities each containing one seed, crowned with the receptacle and short conic Style, fig. 3, 4.

SEEDS five, on one side gibbous, on the other angular, fig. 6.

The Hedera Helix begins to blow in sunny aspects towards the end of September, and according to situation blossoms on through October, and November. This plant is one of the last blowers, and is much resorted to by bees, and flies of various species, which swarm on its branches, and feed on its blossoms, making such a humming on sunny days as may be distinguished at a considerable distance.

The berries encrease in bulk gradually all through the winter months, and are full formed by February; in April they ripen and turn very black, and are eaten by several species of thrushes, and wild pigeons. Thus does fructification manifestly obtain in this instance all through the winter months, as well as in the mosses and lichens.

Sheep are very fond of Ivy, which in hard weather is a warm and wholesome food; and therefore shepherds in snowy seasons cut down branches for their flocks to brouze on. Cato directs that in a scarcity of hay, cattle should be foddered with Ivy.

Professor KALM, in his travels through the greatest part of N. America, saw but one plant of Ivy, and that was running up the walls of a man's house: this specimen was probably carried thither by some European, who perhaps was desirous of propagating in that new world, a plant that might still recall to his mind the pleasing Idea of his native cottage, tufted with the foliage of this beautiful Evergreen.

The ancients held this plant in great esteem; their Heroes and Poets are described as wearing garlands composed of it. The supposition of its preventing intoxication is of very early date: Homer therefore mentions his Bacchus as Ivy-crowned, and often describes his Heroes drinking out of a Cup made of the wood of Ivy. (κισσυβιον.) Cato tells us that with a cup of this kind we may distinguish wine that has been adulterated with water, for the wine will be discharged and the water remain: to such an extravagant assertion has this grave author been probably led by relying on the supposed antipathy between the wine and ivy: This cup is still used in some parts of the kingdom as a remedy for a trembling hand; but rational practice has not admitted any part of the Hedera into the Materia Medica, Ivy-leaves however are said to be successfully applied to painful Corns. When it trails on the ground its branches are small and weak; and its leaves are divided into three lobes; but when it climbs walls or trees it grows much stronger, and the leaf changes to an oval form: these different appearances induced old Botanists to suppose there were two or three different species. In its variegated state it sometimes appears almost white, and may perhaps be the Hedera alba, and pallentes Hederae of VIRGIL.

Few people are acquainted with the beauty of Ivy when suffered to run up a stake, and at length to form itself into a standard, the singular complication of its branches, and the vivid hue of its leaves, give it one of the first places amongst evergreens in a shrubbery; In woods when suffered to grow large and rampant, this plant by twining round their bodies does great damage to timber trees; and therefore should be carefully destroyed: but in ornamented Out-lets, where evergreens do not abound, a few trees covered with Ivy have a very pleasing effect, and moreover induce birds of song to haunt those thickets for the sake of the berries and shelter.

In the Stump of Ivy many birds build their Nests particularly the Black-bird.

When Ivy is prejudicial, it may easily be destroyed, tho' it has spread to a great height, by cutting through its Trunk, and this shows that the fibres which the Stalk throws out in so singular a manner serve more to support than nourish it.

The soft wood of Ivy is made use of by Shoemakers to give a smooth edge to their cutting knives.





Chironia Centaurium.

CHIRONIA CENTAURIUM. CENTAURY.

CHIRONIA *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

Cor. rotata. *Pistillum* declinatum. *Stamina* tubo corollæ infidentia. *Antheræ* demum spirales. *Pericarp.* 2-loculare

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

CHIRONIA *Centaurium*.

GENTIANA *Centaurium* corollis quinquefidis infundibuliformibus, caule dichotomo, pistillo simplici. *Lin. Syst. Vegetab.* p. 122. *Sp. Plant.* p. 332. *Fl. Suec.* n. 232.

GENTIANA caule dichotomo; floribus infundibuliformibus, striatis, quinquefidis. *Haller. Hist.* n. 648.

GENTIANA *Centaurium*. *Scopoli Fl. Carn.* n. 293.

CENTAURIUM minus *Baub. Pin.* 278.

CENTAURIUM minus vulgare. *Parkins.* 272.

CENTAURIUM parvum. *Gerard. emac.* 547. *Raii Syn.* p. 286. Small Purple Centory. *Hudson Fl. Angl.* ed. 2. p. 102. *Lightfoot Fl. Scot.* p. 152.

RADIX annua, fibrosa, lignosa, flavescentia.

CAULIS spithameus, et ultra, erectus, plerumque simplex, glaber, angulosus.

FOLIA opposita, sessilia, glabra, radicalia oblonga, apice obtusa, basi angustata, caulina ovato-lanceolata, erecta, trinervia, superioribus sæpe incurvis.

FLORES rosei, corymbosi, erecti, sessiles.

CALYX: PERIANTHIUM monophyllum, quinquefidum, erectum, corollæ subagglutinatum, persistens, laciniis subulatis, subtriangularibus, membranâ connexis. *fig. 1, 2. auct.*

COROLLA monopetala, infundibuliformis, *tubus* cylindraceus, striatus, tenuissimus, calyce duplo longior, *limbus* quinquepartitus, roseus, laciniis ovatis, patentibus. *fig. 3.*

STAMINA: FILAMENTA quinque, alba, filiformia, ex apice tubi enata. ANTHERÆ oblongæ, incumbentes, flavæ, demum spiraliter contortæ. *fig. 4, 5, 6.*

PISTILLUM: GERMEN oblongum, tubum corollæ implens. STYLUS albus, filiformis, germine dimidio brevior, declinatus, aliquando bifidus. STIGMA crassum, bilobum, villosum, *fig. 7, 8, 9.*

PERICARPIUM: CAPSULA oblonga, acuta, nitida, tubo corollæ obtecta, bilocularis, bipartibilis.

SEMINA numerosa, parva, subrotunda, flavescentia.

ROOT annual, fibrous, woody, and of a yellowish colour.

STALK about seven inches high or more, upright, generally simple, smooth, and angular.

LEAVES opposite, sessile, smooth, those of the root oblong, blunt at the point and narrowed at the base; those of the stalk narrow, pointed, upright, three-ribbed, the uppermost often bent inward.

FLOWERS rose-coloured, growing in a corymbus, upright, and sessile.

CALYX: a PERIANTHIUM of one leaf, divided into five segments, upright, slightly glued to the corolla, permanent, the segments tapering to a point, somewhat triangular, connected by a membrane. *fig. 1, 2. magnified.*

COROLLA monopetalous, funnel-shaped, the tube cylindrical, striated, extremely thin, twice the length of the calyx, *limb* divided into five segments, of a rose-colour, the segments ovate and spreading. *fig. 3.*

STAMINA: five FILAMENTS, white, thread-shaped, springing from the top of the tube. ANTHERÆ oblong, incumbent, of a yellow colour, finally twisted. *fig. 4, 5, 6.*

PISTILLUM: GERMEN oblong, filling the tube of the corolla. STYLE white, of equal thickness throughout, half the length of the germen, inclining to one side, sometimes bifid. STIGMA thick, composed of two lips and villous. *fig. 7, 8, 9.*

SEED-VESSEL: a CAPSULE, of an oblong shape, pointed, shining, covered by the tube of the corolla, divisible into two parts, with a cavity in each.

SEEDS numerous, small, roundish, of a yellowish colour.

Those who have been accustomed to consider this well-known plant as a *Gentiana*, will be startled at seeing it here first announced as a *Chironia*; but when they come attentively to examine its parts of fructification, they will wonder how they could so readily acquiesce in joining it to a genus with which its structure is wholly irreconcilable. It agrees perfectly with LINNÆUS's character of the genus *Chironia*, the essence of which consists in its *twisted Antheræ*; and it is worthy of observation, that the blossoms of two of the *Chironia*'s, not unfrequently met with in the gardens of the curious, are of the same colour as the Centaury. These facts have induced me to add a new genus to the English Catalogue, whereby this plant fortunately assumes its proper name*.

The Centaury grows wild in dry and barren fields, on heaths by the sides of hedges, and sometimes in woods, where it usually acquires a greater height. In the neighbourhood of *Charlton* and *Coombe Woods* it is not unfrequent, and flowers in *July* and *August*.

A variety, with white flowers, is not uncommon.

This herb is extremely bitter, with a disagreeable taste, whence, Baron HALLER observes, the ancients called it *fel terræ*, or *gall of the earth*. From an idea, however, that all bitters are good stomachic medicines, it has acquired no small degree of medicinal fame, and is particularly recommended in all weaknesses of the Stomach; also in the Jaundice, Green-sickness, Worms, Agues, Gout, Scurvy, &c.

It may be given in substance to a drachm; in infusion or decoction to two ounces; the extract to a scruple.

Authors have remarked, that it is a plant very difficult of cultivation.

* Centaury has its name *κενταυρίον* or *κενταύριον* from *Chiron* the Centaur, "Centaurea curatus dicitur Chiron, cum Herculis excepti hospitio pertractandi arma sagitta excidisset in pedem: quare aliqui *Chironion* vocant." *Plin. l. 25. c. 6. p. 635.*





Chenopodium Bonus Henricus.

CHENOPODIUM BONUS HENRICUS. GOOD KING HENRY.

CHENOPODIUM. *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

Cal. 5 phyllus, 5 gonus, *Cor.* o. *Sem.* 1. lenticulare, superum.

Raii. Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

CHENOPODIUM *Bonus Henricus* foliis triangulari sagittatis integerrimis, spicis compositis aphyllis axillaribus. *Lin. Syst. Vegetab.* p. 216. *Sp. Pl.* p. 318. *Fl. Suecic.* n. 214.

CHENOPODIUM foliis triangularibus, undulatis, integerrimis, subtus farinosis. *Haller. hist.* n. 1578.

CHENOPODIUM *Bonus Henricus.* *Scopoli. Fl. Carn.* 278.

LAPATHUM unctuosum folio triangulo. *Bauh. pin.* 115.

BLITUM perenne. *Bonus Henricus* dictum. *Bonus Henricus* *J. B.* II. 965. *Ger. emac.* 329.

LAPATHUM unctuosum. *Park.* 1225. *Raii Syn.* p. 156. common English Mercury, or All-good.

Hudson Fl. Angl. ed. 2. p. 104. *Lightfoot Fl. Scot.* p. 147.

RADIX perennis, ramosa.

CAULIS pedalis, ad sesquipedalem, erectus, ad basin teres, laevis, superne striato-angulatus, farina diaphana adpersus, ramosus.

FOLIA petiolata, alterna, sagittato-triangularia, laevia, subtus venosa, pallidiora, et farinosa, subundulata, integerrima.

SPICA florum terminalis, lutescens, conica, nuda, pulverulenta, inferne composita, superne glomerata, cylindrica.

CALYX: PERIANTHIUM monophyllum, quinquepartitum, laciniis subcuneiformibus, concavis, margine membranaceis, apice dentato eros. *fig. 1.*

COROLLA nulla

STAMINA: FILAMENTA quinque, subulata, calyce paulo longiora; ANTHERÆ subrotundæ, didymæ, flavæ. *fig. 2.*

PISTILLUM: GERMEN ovatum, compressum; STYLUS nullus; STIGMA bipartitum, tripartitum, aut etiam quadripartitum, laciniis acuminatis, albidis, patentibus. *fig. 4.*

PERICARPIUM nullum, calyx continens semen unicum, majusculum, subreniforme, compressum, calycem excedens, epidermide tenui obtectum. *fig. 5.*

FLORES FEMINEI, plurimi, intra hermaphroditos.

ROOT perennial and branched.

STALK from a foot to a foot and a half in height, at bottom round and smooth, upwards finely grooved, and somewhat angular, covered with transparent powdery globules, and branched.

LEAVES standing on footstalks, alternate, triangularly arrow-shaped, smooth, underneath veiny, of a paler colour and mealy, somewhat waved, and entire at the edge.

SPIKE of flowers terminal, yellowish, conical, naked, mealy, below branched, above clustered and cylindrical.

CALYX: a PERIANTHIUM of one leaf, deeply divided into five segments, which are somewhat wedge-shaped, concave, membranous at the edge, and jagged at top. *fig. 1.*

COROLLA wanting.

STAMINA: five FILAMENTS tapering, a little longer than the calyx; ANTHERÆ roundish, double, and yellow. *fig. 2.*

PISTILLUM: GERMEN ovate, flattened; STYLE wanting; STIGMA divided to the base into two, three, or four segments, which run out to a point, are of a whitish colour, and spreading. *fig. 4.*

SEED-VESSEL wanting, the calyx containing a single seed, large, somewhat kidney-shaped, flattened, exceeding the calyx, and covered with a fine skin. *fig. 5.*

FEMALE FLOWERS numerous among the hermaphrodite ones.

Several plants of the Orach and Goosefoot kind are gathered while young and tender by the poorer sort of people to supply the place of Spinach and other greens, one of them is the present plant, whose excellence as a pot-herb seems not to be so generally known as it deserves; at *Boston* in *Lincolnshire*, and probably in many other places in the kingdom, they are sensible of its value, it is there universally cultivated, every one possessing the least spot of ground has his plantation of English Mercury; by them it is considered as superior to Spinach, and always preferred to it, yet, strange to tell! this usefull herb is unknown to the greatest Herb-market in the world, *Covent-Garden*.

To produce this desirable plant in its greatest perfection, sow the seed about March on a deep loomy soil prepared as for Asparagus, let the seedlings continue to grow till Autumn, about the middle of September, taking advantage of a wet season, set them out on a bed similar to that on which they were sown, about a foot apart, keep them clear of weeds, and the ensuing Spring and Summer the plant will afford an abundant crop, the young shoots with their leaves and tops are to be cut as they spring up, and being a perennial plant it will continue thus plentifully to produce for a great number of years; in the winter the bed is to be covered with dung, which should be raked off as the Spring advances, when the earth around the roots is carefully to be dug or forked up.

As a medicine this herb is ranked among the emollients, but rarely made use of in practice; the leaves are applied by the common people for healing slight wounds, cleansing old ulcers, and other like purposes.

It grows in uncultivated places, by road-sides, and particularly in the environs of Farm-yards, like most of the same genus appearing to be fond of dung; it produces both flowers and seeds from May to August.

From all the other Chenopodiums it differs in having a perennial root.

The name by which it is most commonly called is that of *Mercury*, a name which tends to confound it with the other Mercuries (*Mercurialis annua*, and *perennis*) and which it were better if possible to get rid of by using the old botanic name of *Good King Henry*.





Chenopodium rubrum

CHENOPODIUM RUBRUM. SMALL-SEEDED GOOSE-FOOT.

CHENOPODIUM. *Linn. Gen. Pl.* PENTANDRIA DIGYNIA.

Cal. 5-fidus, 5-costatus. *Cor.* 6. *Sem.* 1. lenticulare superum horizontale calice conniventi tectum.

CHENOPODIUM. *Raii Syn. Gen.* 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO (VEL APETALO POTIUS).

CHENOPODIUM *rubrum* foliis cordato-triangularibus obtusiusculis dentatis, racemis erectis compositis subfoliosis caule brevioribus. *Linn. Syst. Nat. ed.* 13. *Gmel. p.* 448. *Syst. Vegetab. ed.* 14. *Murr. p.* 261. *Sp. Pl. ed.* 3. *p.* 318. *Fl. Succ. ed.* 2. *p.* 78. *Lightfoot v.* 1. *p.* 148. *Huds. Angl. ed.* 2. *p.* 105.

CHENOPODIUM foliis glabris nitentibus, acute circumdentatis. *Hall. Hist. n.* 1588.

ATRIPLEX *sylv. latifolia.* *Baub. Pin.* 119.

ATRIPLEX *sylvestris III.* *Matth. p.* 462.

ATRIPLEX *sylvestris latifolia* five *Pes Anserinus.* *Goose-Foot.* *Ger. emac. p.* 328. *f.* 1. *Park. p.* 749. *f.* 8.

BLITUM *Pes Anserinus* dictum. *Goose-Foot* or *Sow-Bane.* *Raii Syn. ed.* 3. *p.* 154.

BLITO *Pes Anserinus* dicto similis. *Raii Syn. ed.* 3. *p.* 154.

BLITUM *Morifono Atriplex* procumbens folio sinuato lucido crasso dictum. *Raii Syn. ed.* 3. *p.* 154. Regarded by Mr. HUDSON as a variety of *murale*.

RADIX annua, fibrosa.

CAULIS pedalis, bipedalis, et ultra, plerumque erectus, inæqualiter striatus, lævis, viridis, purpurascens etiam ruberrimus, nonnunquam simplex, sæpius vero ramosus, ramis inferioribus patentibus, et haud infrequenter decumbentibus.

FOLIA petiolata, subcarnosa, glabra, nuda, subtus venosa, in petiolum decurrentia, sinuata, dentata, dentibus utrinque a basin secundis cæteris plerumque multo majoribus, omnibus acutiusculis et sæpe rubro marginatis.

PETIOLI longi, at foliis ipsis breviores.

FLORES minimi, spicati, virides, purpurascens, aut vivide purpurei, in glomerulis sessilibus subrotundis dense collocati, sub singulo glomerulo foliolum glomerulo longius, hinc spicæ foliosæ evadunt, glomeruli ipsi etiam foliosi nonnunquam observantur.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, concavis, patentibus, margine membranaceis, demum clausis, semen includentibus, *fig.* 1.

COROLLA nulla.

STAMINA: FILAMENTA quinque, alba, calyce paulo longiora; ANTHERÆ flavæ, *fig.* 2.

PISTILLUM: GERMEN subovatum, compressum; STYLUS brevissimus; STIGMATA duo, villosa, patentia, *fig.* 3.

SEMEN minimum, lentiforme, nitidum, saturate fuscum, calyce non penitus tectum, *fig.* 4.

ROOT annual and fibrous.

STALK a foot, two feet or more in height, generally upright, unevenly striated, smooth, green, purplish, or even very red, sometimes simple, but most commonly branched, the lower branches spreading and not unfrequently decumbent.

LEAVES standing on footstalks, somewhat fleshy, smooth, naked, veiny on the under side, running down the foot-stalk, sinuated, toothed, the second teeth on each side from the base usually much larger than the others, all of them somewhat pointed, and often edged with red.

LEAF-STALKS long, but shorter than the leaves themselves.

FLOWERS very minute, spiked, green, purplish, or very bright purple, placed close together, in small roundish sessile balls, under each little ball or cluster is placed a small leaf, longer than the ball itself, which gives to the spikes a leafy appearance, the little clusters themselves are sometimes observed leafy.

CALYX: a PERIANTHIUM of five leaves, which are ovate, concave, spreading, membranous on the edge, finally closing and containing the seed, *fig.* 1.

COROLLA none.

STAMINA: five white FILAMENTS a little longer than the calyx; ANTHERÆ yellow, *fig.* 2.

PISTILLUM: GERMEN somewhat ovate, flattened, STYLE very short; STIGMATA two, villous, and spreading, *fig.* 3.

SEED very minute, lens-shaped, shining, of a deep brown colour, not wholly covered by the calyx, *fig.* 4.

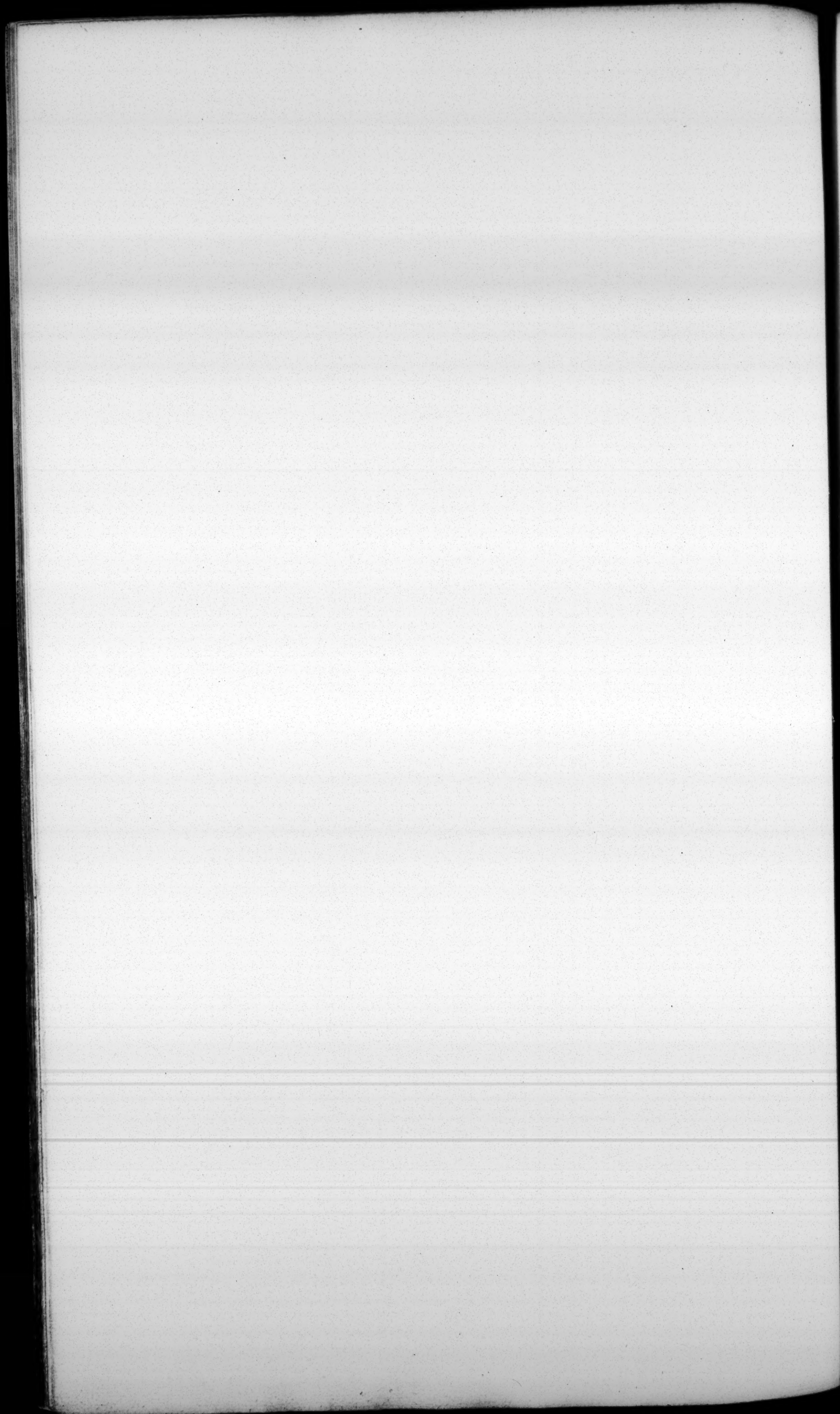
We have often had occasion to remark, that the more common plants, which grow as it were under our feet, are infinitely more difficult to ascertain than those which are rare; this arises in some from a deficiency perhaps of specific character, but more from that diversity of appearance which they assume in consequence of growing in soils and situations widely different: we have always found students, and even those well versed in plants, at a loss in making out the different species of *Chenopodium*, and more especially the present species; and we suspect that LINNÆUS, in his account of it, has in some degree contributed rather to obscure than elucidate it; in his *Flor. Succ. ed.* 2. in describing it, he says, *caules decumbentes et terræ appressæ*; though this may be true of it when growing in certain situations, as in *plateis Stockholmiæ*, it is not generally so; on dunghills, which are frequently covered with it alone, and in waste places that have been overflowed in the winter, situations which this plant principally and very generally affects with us; the main stem is for the most part perfectly upright, as much so as that of the *urbicum*; when it grows singly in soils not very luxuriant, and especially at the close of the year, not only the lower branches are often procumbent, but the whole plant is so, and often in a dwarf state; indeed one can scarcely imagine two plants more different than the one starving in the situation last described, and the other flourishing on a rich dunghill, or a moist ditch originating near it, where it frequently attains the height of three feet.

There is another circumstance which has contributed also to render a knowledge of this plant difficult, and that has arisen from its colour: Botanists have not been aware that there are two principal varieties of it, one of a fine purple, which extends sometimes to the whole plant, and is so brilliant as to render it even ornamental, the other pale green without the least tinge of red; and these two may generally be found growing near each other.

We have long since discovered the means of distinguishing with certainty this plant, under all its appearances, from the *urbicum*, with which it has the greatest affinity (Mr. HUDSON, indeed, suspected that these two plants were varieties only of each other) and that by the difference in the size of their respective seeds; those of the *rubrum* are very minute, not much larger than the largest grains of common writing sand, and those of the *urbicum* are nearly the size of rape-feed.

To see the flowers of this plant, we must examine it when very young in August and September.

Cattle of no kind shew any disposition to eat this herb, which is, however, reported to be noxious to swine, perhaps, on no good authority: the seeds afford abundant food for small birds; agriculturally considered, it must be regarded as a weed, though not so generally troublesome as some of the others of the genus.







Chenopodium murale

CHEOPNODIUM MURALE. NETTLE-LEAVED GOOSEFOOT.

CHENOPODIUM *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

Cal. 5-phyllus, 5-gonus. *Cor.* o. *Sem.* 1. lenticulare, superum.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

CHENOPODIUM *murale* foliis ovatis nitidis dentatis acutis, racemis ramosis nudis. *Lin. Syst. Vegetab.* p. 261. *Sp. Pl.* p. 318. *Fl. Succ.* 216.

ATRIPLEX *sylvestris latifolia*, acutiore folio. *Bauh. Pin.* 119.

ATRIPLEX dicta *Pes anserinus alter f. ramosior*. *Bauh. hist.* 976.

ATRIPLEX *sylvestris latifolia altera*. *Ger. emac.* 328.

BLITUM *Pes anserinus dictum acutiore folio*. *Raii Syn.* p. 154. ? The other Goosefoot. *Huds. Fl. Angl. ed. 2.* p. 105.

Tota planta gravem odorem spirat.

The whole plant smells disagreeably.

RADIX annua, fusiformis, albida, rigida, fibrillis plurimis patentibus instructa.

ROOT annual, tapering, whitish, rigid, furnished with numerous spreading small fibres.

CAULIS erectus, pedalis ad bipedalem, ramosissimus, subangulosus, inferne glaber, superne farinosus, plerumque viridis, sæpe purpureus aut lineis purpureis notatus.

STALK upright, one or two feet high, very much branched, slightly angular, below smooth, above mealy, most commonly green, but often wholly purple, or marked with purple lines.

RAMI alterni, pulverulenti.

BRANCHES alternate and mealy.

FOLIA alterna, petiolata, subovata, acuta, inæqualiter serrata, superne nitida, inferne pulverulenta, apicibus denticulorum rubicundis.

LEAVES alternate, standing on footstalks, subovate, pointed, unequally sawed, above glossy, beneath mealy, the tips of the teeth reddish.

PETIOLI superne canaliculati, longitudine foliorum.

LEAF-STALKS hollow above, the length of the leaves.

FLORES nunc herbacei, nunc purpurei, racemosi, racemis brevibus, nudis, ramosis, depressis, apice inflexis.

FLOWERS sometimes green, sometimes purple, growing in bunches or racemi, which are short, naked, branched, depressed, and bent in at the tip.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, concavis, carinatis, farina diaphana adspersis, persistentibus, marginibus membranaceis, albidis, *fig.* 1.

CALYX: a PERIANTHIUM of five leaves, the leaves ovate, concave, keeled, permanent, sprinkled with transparent meal, the edges membranous and whitish, *fig.* 1.

COROLLA nulla.

COROLLA wanting.

STAMINA: FILAMENTA quinque, alba, calyce paulo longiora; ANTHERÆ majusculæ, ochroleucæ, didymæ, *fig.* 2.

STAMINA: five white FILAMENTS, a little longer than the calyx: ANTHERÆ largish, yellow, and double, *fig.* 2.

PISTILLUM: GERME orbiculatum: STYLI duo, brevissimi, minimi, fere inconspicui, *fig.* 3.

PISTILLUM: GERME round and flat; STYLES two, very small and short, almost inconspicuous, *fig.* 3.

The leaves of this species of *Chenopodium* have some small resemblance to those of the great Stinging-Nettle, hence we have given it the English name of *Nettle-leaved*, in preference to that of *wall (murale)* to which, from its place of growth, with us at least, it has little pretensions, as it is usually found on dunghills, and on banks by road sides.

It grows plentifully on most of the great roads leading from the metropolis; we have seen it in very great abundance during the late autumn on the Edgware road. It flowers from August to October.

The whole plant is sometimes entirely green, and sometimes tinged with red.

It is most strikingly distinguished from the other species by the particular form of its racemi, or flower branches, which are short and spread out widely, so as to give them a flat or depressed appearance, the tops somewhat curled in; in the *rubrum* and *urbicum*, the species most liable to be mistaken for it, the racemi are perfectly upright; its glossy leaves and unpleasant smell contribute also to point it out.

Like most of the other plants of this genus, it affords plenty of seeds, which assist in supporting the numerous tribe of small hard-billed birds.







Chenopodium hybridum.

CHENOPODIUM HYBRIDUM. THORN-APPLE-LEAVED GOOSEFOOT.

CHENOPODIUM *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

Cal. 5-phyllus, 5-gonus. *Cor.* o. *Sem.* 1 lenticulare, superum.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO (VEL APETALO POTIUS).

CHENOPODIUM *Hybridum* foliis cordatis angulato-acuminatis, racemis ramosis nudis. *Lin. Syst. Veget.* p. 216. *Sp. Pl.* p. 319. *Fl. Suec.* n. 220.

CHENOPODIUM foliis glabris septangulis, floribus paniculatis. *Haller. Hist.* n. 1583.

ATRIPLEX sylvestris latifolia, acutiore folio. *Baub. Pin.* 119.

CHENOPODIUM Stramonii folio. *Vaillant, Paris* 36. t. 7. f. 2.

CHENOPODIO affinis, folio lato, laciniato, in longissimum mucronem præcurrente, florum ramulis spatis. *Raii Hist.* III. 123.

BLITUM Aceris folio. *Pet. H. Brit.* 8. 7.

ATRIPLEX odore et folio Stramonii minori tamen. *Læf. Triumph.* apud fratrem. *Raii Syn.* p. 154. *Hudson. Fl. Angl.* ed. 2. p. 105.

RADIX annua, simplex, fibrosa, fibris plurimis, capillaceis, patentibus.

CAULIS pedalis, ad bipedalem erectus, ramosus, angularis, glaber.

FOLIA petiolata, alterna, glabra, sine farinâ, venosa, subtriangularia, patentia, utrinque plerumque tridentata, acuminata, dentibus magnis, remotis.

PETIOLI foliis breviores, subrugosi, inferne convexi, superne canaliculati.

FLORES paniculati.

PANICULA ampla, ramosissima nuda.

CALYX: PERIANTHIUM pentaphyllum, persistens, foliolis ovatis, obtusiusculis, pulverulentis, margine membranaceis.

COROLLA nulla.

STAMINA: FILAMENTA quinque subulata, flavescencia, longitudine calycis. ANTHERÆ didymæ, subrotundæ, flavæ, fig. 2.

PISTILLUM: GERMEN orbiculatum. STYLUS bipartitus, brevis. STIGMATA minima, subreflexa. fig. 3.

SEMEN e nigro castaneum orbiculare, depressum, intracalycem.

ROOT annual, simple and fibrous, fibres numerous, capillary, and spreading.

STALK from one to two feet high, upright, branched, angular, and perfectly smooth.

LEAVES standing on foot-stalks, alternate, smooth, without any meal, veiny, somewhat triangular, spreading, furnished with three teeth on each side, and running out to a long point, the teeth large, and distant from each other.

LEAF-STALKS shorter than the leaves, somewhat wrinkled, convex on the under, and hollow on the upper side.

FLOWERS growing in a panicle.

PANICLE large, very much branched and naked.

CALYX: PERIANTHIUM of five leaves and permanent, leaves ovate, somewhat obtuse, mealy, membranous at the edge.

COROLLA wanting.

STAMINA: FILAMENTS five, tapering, yellowish, the length of the calyx. ANTHERÆ double, roundish, and yellow, fig. 2.

PISTILLUM: GERMEN round, but somewhat flattened. STYLE short, bipartite. STIGMATA very small, turned somewhat back. fig. 3.

SEED of a dark chestnut colour, orbicular, flattened, contained within the calyx.

LINNÆUS, when he bestowed on this *Chenopodium* the name *Hybridum*, had an idea, as may be learned from his *Flora Suecica* *, that it was a spurious plant produced from the *viride*: repeated observations would probably have taught him, that this opinion was too hastily adopted, as the *hybridum* has certainly as great pretensions to be considered as an original species, as the *viride*, the *album*, or any other. Indeed it is one of those *Chenopodiums* which varies the least of any; and, besides the form of its leaves, which resemble those of the Thorn-apple, and its peculiarly branched and naked panicle of flowers, it has a strong and disagreeable smell, which some have compared to that of the Thorn-apple: Also sown in the garden it produces invariably the likeness of the original plant.

Of all the *English* plants of this genus, and we have them all (the *maritimum* excepted) growing wild about *London*, the environs of which are in many places peculiarly favourable to their growth, this is by far the scarcest. I have hitherto discovered it in one place only, and that sparingly, viz. in *Battersea Fields*, betwixt the *Windmill Meadow* and the road leading to *Chelsea Bridge* adjoining the gardener's ground. It flowers in *August*.

It is mentioned, in the third edition of Mr. RAY's *Synopsis*, to have been found by Mr. SHERARD on the banks of some watery pits beyond *Ely*, and by Mr. DALE about *Colchester*. Mr. HUDSON describes it as growing plentifully about *Northfleet*; and Mr. LIGHTFOOT enumerates it among his *Scottish* plants.

Some authors suspect it to be poisonous. TRAGUS, in particular, mentions it as a plant fatal to swine.

* Habet multa communia cum præcedente (*viride*) ut forte olim ab eodem ortum sit, quod racemorum structura indicat. *Fl. Suec.* n. 220. p. 80.





Chenopodium album

CHENOPODIUM ALBUM. WHITE GOOSEFOOT.

CHENOPODIUM *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

Cal. 5 phyllus, 5 gonus.

Cor. o. *Sem.* 1, lenticulare, superum.

Raii. Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

CHENOPODIUM *album* foliis rhomboideo-triangularibus erosis postice integris, summis oblongis, racemis erectis. *Lin. Syst. Vegetab.* p. 216. *Spec. Plant.* p. 319. *Fl. Succic.* p. 79.

CHENOPODIUM foliis subtus farinosis, rhomboideis, dentatis, superioribus integerrimis. *Haller. hist. n.* 1579.

CHENOPODIUM sylvestre opuli folio. *Vaillant, Paris.* 36. t. 7. fig. 1.

BLITUM Atriplex sylvestris dictum. *Raii Syn.* p. 154. Common wild Orache.

ATRIPLEX folio sinuato candicante. *Bauh. pin.* 119.

ATRIPLEX sylvestris vulgatio finuata major. *Parkinson.* 748.

ATRIPLEX vulgaris *Ger. emac.* 326. *Hudson. Fl. Angl.* p. 91. *Lightfoot. Flor. Scot.* p. 148.

RADIX annua, fibrosa, alba.

CAULIS erectus, pedalis ad tripedalem, parum flexuosus, subangulosus et striatus, solidus, ramosus, lævis, subinde purpurascens. RAMI alterni.

FOLIA rhomboideo-triangularia, erosa, postice integra, fig. 7. glauco-viridia, subtus præsertim farinâ copiose adpersa, summis oblongis minus profunde dentatis, aut etiam integris.

RACEMI axillares, erecti, spicati, floribus glomeratim dispositis.

CALYX PERIANTHIUM pentaphyllum, persistens, foliolis ovatis, concavis, margine membranaceis, pulverulentis fig. 1. postice visum. auct.

COROLLA nulla.

STAMINA : FILAMENTA quinque, subulata, alba, calycis foliis opposita et paulo longiora; ANTHERÆ subrotundæ, didymæ, flavæ. fig. 2.

PISTILLUM : GERMEN orbiculatum; fig. 3; STYLUS brevis, bipartitus; STIGMATA obtusa. fig. 4.

SEMEN unicum, lenticulare, læve, castaneum. fig. 6.

ROOT annual, fibrous and white.

STALK upright, from one to three feet high, slightly crooked, somewhat angular and striated, solid, branched, smooth, sometimes of a purplish colour. BRANCHES alternate.

LEAVES of a triangular rhomboid figure, deeply and irregularly indented, intire behind, fig. 7. of a blueish green colour, plentifully covered particularly on the under side with a mealy powder, the uppermost leaves oblong, less deeply indented or even entire.

RACEMI axillary, upright, forming a spike of flowers growing in little balls or clusters.

CALYX : a PERIANTHIUM of five leaves: and continuing, the segments oval, hollow, membranous at the edges and powdery fig. 1. seen on the back part, and magnified.

COROLLA wanting.

STAMINA : five white tapering FILAMENTS opposite to and a little longer than the leaves of the Calyx; ANTHERA composed of two roundish yellow cells. fig. 2.

PISTILLUM : GERMEN orbicular; fig. 3; STYLE short, divided in two; STIGMATA obtuse. fig. 4.

SEED one, lens-shaped, smooth and of a chestnut colour. fig. 6.

If any plants stand in need of figures to illustrate them, rather than descriptions, it is surely the different species of *Chenopodium* and *Atriplex*.

By figuring the outline of the leaf of any of these plants, we convey to the most transient observer, a perfect idea of its shape, without that ambiguity which must ever attend the description of leaves so irregularly formed, so variable, and so difficult of definition.

Besides figures, these plants seem also to require every other kind of elucidation; and if the altering and fixing distinct english names to different Genera, be in any case justifiable, it must be here, where three different Genera are called indiscriminately by the names of *Orach*, *Goosefoot*, and *Blite*. I have therefore presumed to call the Genus *CHENOPODIUM* *Goosefoot*, and propose confining the term *Orach* to *ATRIPLEX*, and *Amaranth* to *AMARANTHUS*; the term *Blite*, by which a species of the last mentioned Genus has been called, seems most applicable to the genus *BLITUM*.

The *Chenopodium album* is the most common with us of the whole genus; it occurs in every Garden, flourishes on every Dunghill, and abounds in most of our Corn-fields. To the Gardener it is a quick growing troublesome Weed; to the Farmer it is an injurious one, and generally introduced into his fields by that slovenly practice of suffering every kind of weed to seed on his Dung-heap.

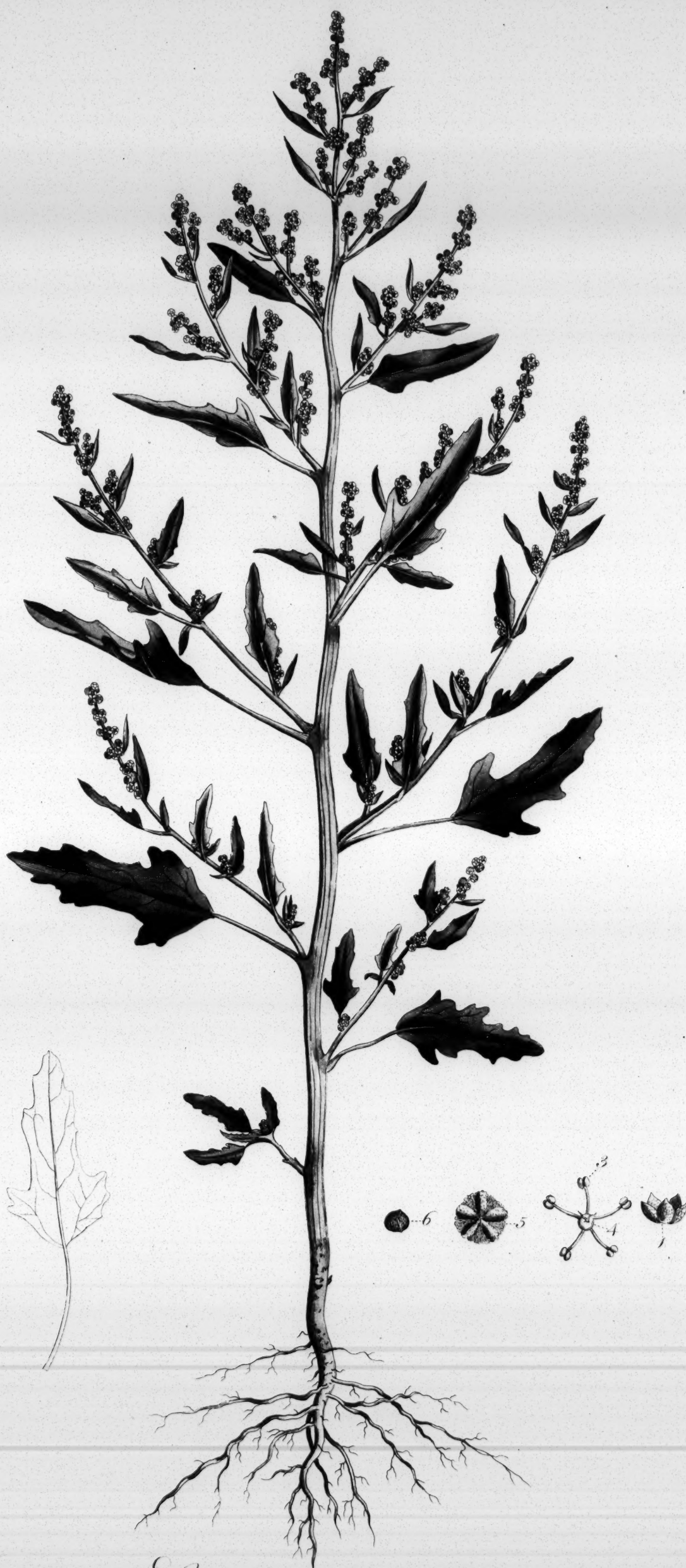
Like the other species of this Genus, it varies exceedingly in its appearance when young, and when in its feeding state. Indeed all these plants require that the student should notice them from the earliest to the latest periods of their growth; or he never can attain a perfect knowledge of them.

It is whiter in its whole appearance than most of the *Chenopodiums*; the leaves being more generally covered with those pellucid particles resembling meal, which are characteristic of these Genera.

Mr. LIGHTFOOT noticed its being eaten as a Pot-herb in some parts of *Scotland*.







Chenopodium viride

CHENOPODIUM VIRIDE. PURPLE-JOINTED GOOSEFOOT.

CHENOPODIUM. *Linnaei Gen. Pl.* PENTANDRIA DIGYNIA.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO, SEU STAMINEO, VEL APETALO POTIUS.

CHENOPODIUM *viride* foliis rhomboideis dentato-sinuatis, racemis ramosis subfoliatis. *Linnaei Syst. Vegetab. p.* 216. *Sp. Pl.* 319. *Flora Suecic. p.* 79.

CHENOPODIUM foliis rhomboideis, dentatis, subtus incanis. *Haller. hist. helv. p.* 267. *n.* 1580.

CHENOPODIUM *viride.* *Scopoli Fl. Carniol. n.* 280.

Hudson Fl. Angl. p. 91.

Lightfoot Flora Scot. p. 149. *n.* 6.

I have been cautious in referring to the synonyma of authors on this plant, seeing they differ so much in their opinions respecting it; and have rather wished that the plate here given, might serve as a reconciliatory reference. LINNÆUS and HALLER both seem to doubt its being a species distinct from the *album*, and it must be confessed there is a great similarity betwixt them; yet if my observations are just, there is every reason to consider them as two plants perfectly distinct.

They agree in this, that they are both annual plants, both grow in the same soil and situations, are nearly alike in their size and habit, and both flower about the same time; and yet they differ in many respects very essentially. That which in a more striking manner distinguishes the *viride* from the *album*, is the greener appearance of the whole plant, the bright red colour at the angles of the joints, which is constant, and the shape of the leaf, *fig. 1*, which is always much longer than that of the *album*. The *album* is loaded with an appearance of meal, which gives it its white colour; the *viride*, though not destitute of it, has it not in that profusion. When the seed are ripe, the tops of the stalks, in the *viride*, are more apt to hang down; the parts of the fructification, *fig. 1, 3, 4, 5*, are very similar, but smaller; and the calyx is not quite so much covered with little globules: the seeds of each differs very considerably, and affords a very curious and satisfactory distinction: in the *album* it is perfectly smooth, *glaber*; in the *viride* it is smaller, and reticulated with impressed dots, *reticulatus punctis impressis*, *fig. 6*.

Like some of the other species of this Genus it is eaten as a pot-herb.







CHENOPODIUM POLYSPERMUM. ALL-SEED.

CHENOPODIUM *Linnei Gen. Pl.* PENTANDRIA DIGYNIA.

Cal. 5-phyllus, 5-gonus. *Cor.* o. *Sem.* 1. lenticulare, superum.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTOE SEU STAMINEO (VEL APETALOPOTIUS.)

CHENOPODIUM *Polypermum* foliis integerrimis ovatis, caule erecto, calycibus fructus patulis.

CHENOPODIUM *Polypermum* foliis integerrimis ovatis, caule decumbente, cymis dichotomis aphyllis axillaribus. *Lin. Syst. Vegetab.* p. 216. *Spec. Plant.* p. 231. *Fl. Succic.* p. 80.

CHENOPODIUM caule erecto, foliis ovatis integris. *Haller hist. helv.* p. 266.

CHENOPODIUM *Polypermum.* *Scopoli Fl. Carniol.* n. 279.

BLITUM polyspermon a feminis copia. *Baubin pin.* 118.

Gerard emac. 325.

Parkinson 753.

CHENOPODIUM *Betæ folio.* *Inst. R. H.* 506.

Raii Syn. p. 157. Upright Blite, or All-feed.

Lightfoot Fl. Scot. p. 150.

Hudson Fl. Angl. ed. 1. p. 92. ed. 2. p. 107.

RADIX annua, fibrosa, rubescens.

CAULIS plerumque suberectus, pedalis aut bipedalis, tetragonus, lævis; RAMI diffusi, longissimi, cauli similes

FOLIA petiolata, ovata, integerrima, lævia, margine venisque rubro sæpe tinctis.

FLORES axillares, subcymosi, Cymis dichotomis, aphyllis.

CALYX: PERIANTHIUM pentaphyllum, concavum, persistens, laciniis ovatis, viridibus, *fig. 1.*

COROLLA nulla.

STAMINA: FILAMENTA quinque basi latiora, alba, demisso polline Calyce longiora; ANTHERÆ subrotundæ, didymæ, flavæ, *fig. 2.*

PISTILLUM: GERMEN orbiculatum; STYLUS bipartitus, brevissimus; STIGMATA obtusa, *fig. 3, 4.*

PERICARPIUM nullum.

SEMEN orbiculatum, rufum, Calyci patulo innixum, non vero inclusum, *fig. 5.*

ROOT annual, fibrous, and reddish.

STALK in general nearly upright, about a foot or two in height, four-cornered and smooth; BRANCHES far extended, and like the stalk.

LEAVES standing on foot-stalks, oval, entire at the edges, smooth, the margin and veins often tinged with red.

FLOWERS axillary, forming a kind of Cyma, which divides into two at bottom, and is leafless.

CALYX: a PERIANTHIUM of five leaves, concave and permanent, the segments oval and green, *fig. 1.*

COROLLA wanting.

STAMINA: five FILAMENTS, broadest at the base, of a white colour; the Pollen being thrown out, they become longer than the Calyx: ANTHERÆ roundish, double, and yellow, *fig. 2.*

PISTILLUM: GERMEN orbicular: STYLE divided into two, very short: STIGMATA blunt, *fig. 3, 4.*

SEED-VESSEL wanting.

SEED orbicular, reddish brown, supported by the Calyx, which spreads open, and does not cover it, *fig. 5.*

ALTHOUGH there are many of the *Chenopodiums* which are not to be distinguished without much care and attention, yet some are very easily made out, of which number is the present species.

Its square stalk, which is generally of a bright red colour, its long extended branches, and its reddish seeds, which are numerous and strikingly visible, from being only in part covered with the calyx, render this plant sufficiently obvious.

It is not uncommon in gardens and on dunghills, flowers in July and August. To the gardener it is a troublesome annual, but scarcely injurious to the farmer.

Fish are said to be fond of it, *Lin. Fl. Succic. ex Loes*, when thrown into fish ponds.







Chenopodium olidum.

CHENOPODIUM OLIDUM. STINKING BLITE, or ORACH.

CHENOPODIUM *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

Cal. 5-phyllus, 5-gonus. *Cor.* o. *Semen* 1. lenticulare superum.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

CHENOPODIUM *Vulvaria* foliis integerrimis, rhomboideo-ovatis, floribus conglomeratis axillaribus. *Lin. Syst. Vegetab.* p. 216. *Sp. Pl.* 321. *Fl. Suec.* 222.

CHENOPODIUM caule diffuso, foliis obtuse lanceolatis. *Haller hist.* n. 1577.

CHENOPODIUM *Vulvaria.* *Scopoli Fl. Carn.* n. 281.

ATRIPLEX fœtida. *Bauh. Pin.* 119.

ATRIPLEX olida. *Ger. emac.* 327.

ATRIPLEX fylvestris fœtida. *Park.* 749.

BLITUM fœtidum *Vulvaria* dictum. *Raii Syn.* p. 156. Stinking Orache. *Hudson Fl. Angl. ed.* 2. p. 107. *Lightfoot Fl. Scot.* p. 149.

Tota planta farina alba pellucida adspersa.

RADIX annua, fibrosa.

CAULES plures, diffusi, teretes, substriati, nudiusculi.

FOLIA alterna, petiolata, rhomboideo-ovata, integerrima.

FLORES axillares et terminales, dense glomerati, subspicati.

FRUCTIFICATIO a reliquis hujus generis vix diversa.

Fig. 1. exhibet Calycem, Stamina, cum Pistillo.

Fig. 2. Semen Calyce inclusum.

Fig. 3. Semen seorsim. Omnia auct.

♦ The whole plant sprinkled with a white pellucid meal.

♦ ROOT annual and fibrous.

♦ STALKS numerous, spreading, round, somewhat striated, and thinly belet with leaves.

♦ LEAVES alternate, standing on footstalks, rhomboid-ovate, perfectly entire.

♦ FLOWERS axillary and terminal, thickly clustered, and somewhat spiked.

♦ FRUCTIFICATION scarcely different from the rest of this genus.

♦ *Fig. 1.* exhibits the Calyx, with the Stamina and Pistillum.

♦ *Fig. 2.* The Seed enclosed by the Calyx.

♦ *Fig. 3.* The Seed separate. All magnified.

There is some difficulty in ascertaining several of the plants of this genus, but that difficulty cannot be alleged against the present species, as it is at all times, both fresh and dried, discoverable by its smell alone; the whole plant, if ever so slightly bruised betwixt the thumb and fingers, communicating a very permanently disagreeable odour, resembling, in the opinion of most persons, stale salt fish: it is, moreover, a procumbent plant.

This species is very common in the neighbourhood of London, on dry banks, and at the foot of walls and paling, where it flowers from July to September. LEWIS errs egregiously when he says it naturally delights in moist places.

It is a plant of little consequence, except in a medicinal point of view, and in that its virtues are, perhaps, ill-founded; it retains, however, a place in the London and Edinburgh Dispensatories.

“ Stinking Orache, on account of its strong scent, is reckoned an useful antihysterical; in which intention, some recommend a conserve of the leaves, others a watery infusion, and others a spirituous tincture of them. On some occasions it may, perhaps, be preferable to the fetids, which have been more commonly made use of, as not being accompanied with any pungency or irritation, and seeming to act merely by virtue of its odorous principle.” *Lewis's Mat. Med.* p. 124.







Hydrocotyle vulgaris

HYDROCOTYLE VULGARIS. MARSH PENNYWORT, or WHITE-ROT.

HYDROCOTYLE *Linn. Gen. Pl.* PENTANDRIA DIGYNIA.

*Umbella simplex: Involucro 4-phylo. Petala integra. Semina
semiorbiculato-compressa.*

Raii Syn. Gen. 11. UMBELLIFERÆ HERBÆ.

HYDROCOTYLE *vulgaris* foliis peltatis, umbellis quinquefloris. *Linn. Syst. Vegetab. p. 271. Sp.
Pl. p. 338. Fl. Suec. n. 234.*

HYDROCOTYLE foliis rotundis emarginatis, petiolis centralibus, umbellis fastigiatis. *Hall. Hist. 812.*

RANUNCULUS aquaticus, cotyledonis folio. *Bauh. Pin. 180.*

COTYLEDON palustris. *Ger. emac. 350. Parkinf. 1214.*

HYDROCOTYLE *vulgaris.* *Infl. R. H. 328. Raii Syn. p. 222. Marsh Pennywort, or White-Rot.
Huds. Fl. Angl. ed. 2. p. 110.*

RADICES perennes, capillaceæ, albidæ.

CAULES repentes, teretes, glabri, ad genicula radican-
cantes.

FOLIA longitudine et latitudine vix pollicaria; longe
petiolata, peltata, orbiculata, repanda aut
sublobata, crenulata, centro nonnihil de-
pressa, punctoque albido notata, utrinque
venis anastomosantibus reticulata, glaberrima,
nitentia, læte viridia. *Petioles* subpollicares,
erecti, teretes, glabri, inferne nudi, superne
pilis fetosis, horizontalibus, distantibus, his-
piduli.

FLORES parvi, glomerati, albi, aut subrubelli, pro-
pe terram e repente caule ad axillas petiolo-
rum prodeuntes.

PEDUNCULI communes solitarii, vix ultra pollicares,
erecti, teretes, pilosiusculi, in glomerulis aut
verticillis potius quam umbellulam termi-
nantes. *Stipulae* duæ, subrotundæ, membra-
naceæ, albæ, ad basin cujusvis pedunculi.

FLOSCULI 5, ad 9, fertiles, exigui, brevissime pedi-
cellati. Folium minutum, lineari-subulatum,
singulo flosculo subiectum.

PERIANTHIUM proprium vix ullum.

COROLLA pentapetala, linearis diametro, PETALA
ovata, acuta, integra, patentia, pallide rosea,
fig. 1, 2, auct.

STAMINA: FILAMENTA 5, subulata, albida, corollâ
breviora. ANTHERÆ minimæ, albæ, *fig. 3.*

PISTILLUM: GERMEN inferum, erectum, compres-
sum, orbiculatum, subtrigonum, *fig. 4.* cor-
pusculo fungoso, flavo, coronatum; STYLI
duo, subulati, brevissimi; STIGMATA obtu-
siuscula, alba, *fig. 5.*

PERICARPIUM nullum: FRUCTUS orbiculatus, com-
pressus, bipartibilis.

SEMINA duo, orbiculata, compressa, pallide fusca.

ROOTS perennial, capillary, whitish.

STALKS creeping, round, smooth, striking root at the
joints.

LEAVES in length and breadth about an inch, stand-
ing on long footstalks inserted into the cen-
tre of the leaf, orbicular, waved or somewhat
lobed and notched on the edge, the centre a
little depressed, and marked with a white
dot, veins anastomosing and forming a kind
of net-work on each side the leaf, perfectly
smooth, glossy, and of a bright green colour.
The *Leaf-Stalks* about two inches long, up-
right, round, smooth, naked below, above
beset with bristly, horizontal, distant hairs.

FLOWERS small, in clusters, white or reddish, pro-
ceeding from the creeping stalk near the
ground out of the axæ of the leaf-stalks.

GENERAL PEDUNCLES single, little more than an
inch in length, upright, round, slightly hairy,
producing little balls or whorls rather than
terminating in an umbel of flowers. *Stipulae*
two, roundish, membranous, white, at the
base of each peduncle.

FLORETS from 5 to 9, very small, standing on very
short foot-stalks, a very minute leaf, narrow
and tapering, placed under each floret.

PERIANTHIUM of each floret scarcely any.

COROLLA pentapetalous, a line in diameter, the
PETALS ovate, pointed, entire, spreading,
of a pale rose colour, *fig. 1, magnif. fig. 2.*

STAMINA: 5 Filaments, tapering, whitish, shorter
than the corolla: ANTHERÆ very small and
white, *fig. 3.*

PISTILLUM: GERMEN beneath the corolla upright,
flattened, orbicular, somewhat three-cornered,
fig. 4. crowned with a yellow fungous sub-
stance; STYLES two, tapering, very short;
STIGMATA bluntish, white, *fig. 5.*

SEED-VESSEL none, FRUIT orbicular, flattened,
splitting in two.

SEEDS two, orbicular, flattened, of a pale brown
colour.

The name of *White-Rot* has been given to this plant, from an idea of its being the cause of the rot in sheep, an opinion founded we apprehend more on conjecture than experiment; the real cause of that disease is we fear yet to be discovered, and will not be found perhaps to arise from their feeding on any particular plant.

It is extremely common on all boggy ground near London, and we believe in every part of Great-Britain. It flowers in July and August.

The fructification of this plant, which proves it truly to be related to the umbelliferi, is rarely seen without a close examination, being usually hidden by the leaves, but as it is plentifully produced, it may readily be discovered at the proper season.

The leaf affords an excellent example of what LINNÆUS calls the *folium peltatum*.





Caucalis in festa.

CAUCALIS INFESTA. CORN CAUCALIS.

CAUCALIS *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

Cor. radiatæ; disci masculæ. Petala inflexo-marginata. Fructus fetis hispidus. Involucra integra.

Raii Syn. Gen. 11. UMBELLIFERÆ HERBÆ.

CAUCALIS *arvensis* involucro universali monophyllo, umbella conferta, feminibus rotundato-ovatis, foliolis ovato-lanceolatis, pinnatifidis, ramis divaricatis. *Huds. Fl. Angl. ed. 2. p. 113.*

SCANDIX infesta semine exteriori hispido, umbellulis confertissimis hemisphæricis. *Lin. Syst. Veg. p. 237. Jacq. Fl. Austr. t. 46.*

CAUCALIS foliis duplicato-pinnatis, pinnulis longe confluentibus. *Hall. Hist. 742.*

CAUCALIS fegetum minor Anthriscus hispido similis. *Raii Syn. p. 20. Hist. Pl. p. 468.* Small Corn-Parley.

CAUCALIS pumila fegetum Goodyero. *Ger. emac.*

RADIX annua, fusiformis, tenuis, sublignosa, albidula.

CAULIS solitarius, semipedalis ad bipedalem, prope basin in ramos patentes, longos divisus, parum flexuosus, teres, inferne glaber, subrubens, superne scabriusculus, striatus, viridis.

FOLIA alterna, sessilia, remotiuscula, patentia, apice parum deflexa, petiolata, pinnata, pilis minutis albis utrinque hirsutula, ferdide viridia, pleraque demum purpurea; *Foliola* seu pinnæ tres, ad septem, oppositæ, circumscissione ovatæ, aut ovato-lanceolatæ, extrema longissima, pinnatifidæ, laciniis lanceolatis, acutis: infimæ petiolatæ, remotiores, ceteræ sessiles, superiores confluentes.

FLORES in umbellis, parvi, albi, inodori.

CALYX: UMBELLA *universalis*, inæqualis, radiis tribus ad novem.

————— *partialis* inæqualis, conferta, convexa, radiis pluribus, exterioribus quinque longioribus.

INVOLUCRUM *universale* submonophyllum, plerumque nullum.

————— *partiale* foliolis subquinis, linearisubulatis, appressis, hirsutulis, umbellulæ fere longitudine.

PERIANTHIUM proprium, minutum, quinquedentatum.

COROLLA *universalis* difformis, radiata; flosculi disci sæpe abortivi.

————— *propria* hermaphrodita; PETALIS quinque inflexo-cordatis, inæqualibus, extimo maximo, ceteris gradatim diminutis, *fig. 1.*

STAMINA: FILAMENTA quinque, capillaria; ANTHERÆ parvæ, purpurascens, *fig. 2.*

PISTILLUM: GERMEN oblongum, inferum, hispidum, pilis apice rubris, *fig. 3.* STYLI duo, subulati, patentes; STIGMATA duo, capitata, *fig. 4.*

FRUCTUS ovato-oblongus, striatus, fetis rigidis uncinatis hispidissimus, *fig. 5.*

SEMINA duo, oblonga, hinc convexa, inde plana.

ROOT annual, tapering, slender, somewhat woody, and whitish.

STALK single, from half a foot to two feet high, divided near the base into long spreading branches, a little crooked, round, smooth below, and reddish; above roughish, striated, and green.

LEAVES alternate, sessile, somewhat remote, spreading, turned down a little at the tip, standing on footstalks, pinnated, covered on both sides with minute white hairs, whence slightly hirsute, of a dull green colour, most of them finally purple; the *leaflets* or pinnæ from three to seven, opposite, ovate or ovato-lanceolate, the outermost very long, pinnatifid, the segments lanceolate, pointed, the lowermost standing on footstalks, and more distant than the others, the rest sessile, the upper ones running together.

FLOWERS growing in umbels, small, white, and scentless.

CALYX: the *universal* UMBEL, unequal, with from three to nine rays.

————— the *partial* UMBEL, unequal, crowded, convex, composed of numerous rays, the five outermost of which are the longest.

INVOLUCRUM: the *general* one, of one leaf, more or less, most commonly wanting.

————— the *partial* one, composed of about five small leaves, very narrow and tapering, appressed, slightly hirsute, almost the length of the small umbel.

PERIANTHIUM of each floret very small, with five teeth.

COROLLA: the *universal* COROLLA misshapen, radiated, the florets of the disk often abortive.

————— the *florets* hermaphrodite, composed of five PETALS, inflexo-cordate, unequal, the outermost very large, the rest gradually diminished in size, *fig. 1.*

STAMINA: have five capillary FILAMENTS, and small purplish ANTHERÆ, *fig. 2.*

PISTILLUM: GERMEN oblong, below the corolla, hispid, hairs red at the tips, *fig. 3.* STYLES two, tapering, spreading wide; STIGMATA two, each forming a little head, *fig. 4.*

FRUIT ovato-oblong, striated, exceedingly hispid, with stiff hooked bristles, *fig. 5.*

SEEDS two, oblong, convex on one side, and flat on the other.

Most of the ancient Botanists confounded this plant with the *Caucalis Anthriscus*, which they might do without any great disparagement of their discernment: Mr. GOODYER, of *Hampshire*, the friend of old GERARD, and often mentioned by him with respect, appears first to have noticed it; RAY afterwards describes it with great accuracy.

Though the plant appears now to be well known, Botanists differ as to the genus to which it should be referred: LINNÆUS in his *Systema Naturæ* has considered it as a *Scandix*, and JACQUIN in his accurate and elegant work has followed him; BARON HALLER, on the contrary, ranks it as a *Caucalis*, and Mr. HUDSON, in our humble opinion with great propriety, coincides with him in opinion; for we apprehend it will generally be allowed that in the umbelliferous plants, a character taken from the seed is more to be depended on than one drawn from the involucre;—we have therefore taken Mr. HUDSON's specific description, but that we might differ as little as possible from LINNÆUS, we have changed the generic name only.

The term *infesta* has been applied to this plant, from its being a very common and bad weed in corn-fields, to which it is not altogether confined, being sometimes found by the sides of hedges and among rubbish: we meet with it frequently in *Battersea* fields, where it flowers from *June* to *August*.—The seeds when ripe adhere to one's clothes.





Caulis Anthriscus.

CAUCALIS ANTHRISCUS. HEDGE CAUCALIS.

Hudson Fl. Angl. ed. 2. p. 112. PENTANDRIA DIGYNIA.

Corollæ radiatæ. Fructus subovatus, striatus, fetis rigidis hispidus.

Raii Syn. Gen. 11. UMBELLIFERÆ HERBÆ.

CAUCALIS *Anthriscus involucris multifidis**, umbella conferta, feminibus oblongis, foliolis ovatis pinnatifidis, ramis erectis. Hudson Fl. Angl. ed. 2. p. 12.

TORDYLIUM *Anthriscus umbellis confertis, foliolis ovato-lanceolatis, pinnatifidis.* Linn. Syst. Vegetab. p. 275. Mantif. 350. Jacq. Fl. Austr. v. 3. t. 251.

CAUCALIS foliis duplicato-pinnatis, nervo multoties latioribus. Hall. Hist. n. 741.

CAUCALIS *Anthriscus.* Scopoli Fl. Carn. n. 311.

CAUCALIS femine aspero flosculis rubentibus. Baub. Pin. 153.

CAUCALIS minor flosculis rubentibus. Ger. emac. 1022.

CAUCALIS minor flore rubente. Parkinsf. 921.

ANTHRISCUS quorundam femine aspero hispido. I. B. III. 2. 83. Raii Syn. ed. 3. p. 219. An. 4. Hedge Parsley.

RADIX annua, tenuis, fusiformis, parum fibrosa, extus flavicans, intus alba.

CAULIS 4—6 pedalis, erectus, subflexuosus, teres, purpureascens, scaber, fetis minutis rigidis vix visibilibus deorsum appressis vestitus, ramosus. Rami plures, alterni, suberecti.

FOLIA pauca, fere palmaria, remota, patentissima, duplicato-pinnata, ad apices deflexa, petiolata, petiolis canaliculatis, basi latiore subvaginantibus; *Pinnarum* tria, quatuorve paria, cum impari, ovata, acuta, inferiores petiolata, latiores, sequentes sessiles, breviores, angustiores, extrema longissima, lineari-lanceolata; *Foliola* inciso-ferrata acutiuscula, fetis minutis conspicuis tamen obsita.

FLORES in umbellis mediocribus planis, albi aut rubentes, inodori.

UMBELLA *universalis* planiuscula, rara, inæqualis, radiis circiter octo; *partialis* paulo densior, convexuscula, inæqualis, radiis 12 aut pluribus, exterioribus longioribus, omnibus fetis sursum appressis hispidis.

INVOLUCRUM: *universale* polyphyllum, dimidia radiorum longitudine, foliolis radiorum plerumque numero, linearibus, acutis, margine membranaceo, albido; *partiale* polyphyllum, foliolis confimilibus, appressis, longitudine umbellularum.

PERIANTHIUM proprium 5-dentatum, exiguum sepae inter pilos reconditum.

COROLLA: *universalis* difformis, radiata; *Flosculi* disci abortivi; *propria disci* mas, parva, petalis 5 inflexo-cordatis, æqualibus; *propria radii* hermaphrodita, petalis 5, inflexo-cordatis, patentissimis, subtus villosiusculis, extimis paucis majoribus, bifidis, fig. 1. auct.

STAMINA omnibus, FILAMENTA 5, capillaria, petalis paulo longiora; ANTHERÆ parvæ, didymæ, purpureæ, fig. 2.

PISTILLUM: GERMEN oblongum, inferum, hispidum; STYLI duo, breves, patentés, demum reflexi; STIGMATA duo, obtusa.

PERICARPIUM nullum: *Fructus* parvus, ovatus, leviter compressus, fig. 4.

SEMINA duo, hinc gibba, trifurca, fetis rigidis sursum arcuatis albis aut rubellis hispida, illinc linea glabra longitudinaliter excavata, fig. 5.

ROOT annual, slender, tapering, slightly fibrous, yellowish without and white within.

STALK from 4 to 6 feet high, upright, a little crooked, round, purplish, rough, covered with minute rigid bristles, pressed downwards to the stalk, and scarcely visible, branched. The Branches numerous, alternate, and nearly upright.

LEAVES few, a hand's-breadth nearly in length, distant, spreading greatly, doubly pinnated, turned downwards at the tips, standing on footstalks, which are hollowed above, broader at the base and somewhat sheathing; *Pinnæ* three or four pair, with an odd one, ovate, pointed, the lower ones standing on footstalks, broader, the upper ones sessile, shorter, narrower, the outermost very long, betwixt linear and lanceolate; the *small Leaves* of which they are composed inciso-ferrated, a little pointed, covered with very minute yet visible setæ.

FLOWERS white or reddish, without scent, growing in middle-sized flat umbels.

UMBEL: the *universal* one flattish, thin, unequal, with about eight rays; the *partial* one a little thicker, somewhat convex, unequal, with about twelve or more rays, the outermost longest, all of them hispid with setæ pressed upwards.

INVOLUCRUM: the *universal* one composed of many leaves, about half the length of the rays, the leaves usually as numerous as the rays, linear, pointed, the margin membranous and white; the *partial* one composed of many leaves, similar to the others, pressed to the rays, the length of the small umbels.

PERIANTHIUM of each floret 5-toothed, minute, often hid among the hairs.

COROLLA: the *general* one misshapen, radiated; *Florets* of the disk abortive; *each floret of the disk* male, small, of 5 petals, inflexo-cordate, equal; *each floret of the radius* hermaphrodite, of 5 petals, inflexo-cordate, very widely spreading, on the under side slightly villous, the outermost ones somewhat largest and bifid, fig. 1. magn.

STAMINA in all the flowers, 5 capillary FILAMENTS, a little longer than the petals; ANTHERÆ small, double, and purple, fig. 2.

PISTILLUM: GERMEN oblong, beneath the corolla, hispid; STYLES two, short, spreading, finally bowed back; STIGMATA two, blunt.

SEED-VESSEL none: *Fruit* small, ovate, slightly flattened, fig. 4.

SEEDS two, on one side gibbous, with three grooves, hispid with rigid bristles of a white or red colour, bowed upwards, on the other side marked longitudinally with one smooth hollow groove, fig. 5.

* We presume Mr. HUDSON means polyphyllis.

The *Caucalis Anthriscus* approaches so near to the *infesta* already figured, as sometimes to occasion some little difficulty in distinguishing the two: this difficulty did not escape the observation of RAY, who with uncommon accuracy has pointed out the peculiarities of each in his *Hist. Plant.* which we shall place before our readers, nearly in his own words.—“ 1st, The *Anthriscus* is the taller plant, growing to the height of two cubits (three feet); the *infesta*, more dwarf, scarcely ever exceeds a foot, or one cubit at farthest. 2dly, The *Anthriscus* is more upright, with longer internodes; the *infesta*, with a more crooked stalk, has more numerous joints. 3dly, The stalk of the *Anthriscus* is more hirsute near the ground than that of the *infesta*. 4thly, The florets of the *Anthriscus*, which are white, or of a pale red colour, have petals nearly equal in size, with purple antheræ; the florets of the *infesta* are white, verging to yellow; the two outermost petals are very manifestly larger than the rest, and the antheræ white. 5thly, The seeds of the *infesta* are by far the largest, and the little tips on the crown of the seed green; those of the *Anthriscus* are more fragrant, more aromatic, and of a duller colour with purple tips. Lastly, The *Anthriscus* is seldom found but in hedges and among bushes, while the *infesta* is never found in hedges, but for the most part among corn.”

These distinctions, as far as we have observed, are perfectly just, and worthy of their author; we shall only observe in addition, that when we have been at a loss for a distinction, the most ready one has been afforded by the presence of the involucre, from which Mr. HUDSON has judiciously taken a part of its specific character; the leaves of this, however, though always present, are sometimes so closely pressed to the radii, as not to be immediately visible; the styles too, in general, are bent or bowed back to a greater degree than in the *infesta*.

This plant is very common in the neighbourhood of London, in the situations RAY describes, flowering in July. Though the *infesta* may sometimes prove a troublesome weed, this, from its place of growth, is in no degree such.

SCOPOLI observes, that as the seed is not flat, nor has a margin, it cannot be considered as a *Tordylium*; he remarks also, that he has seen the cultivated plant with an involucre of one leaf, and without any; as this is quite contrary to our experience, we suspect he was deceived by the leaves of the involucre being pressed close to the radii, which, as we have before observed, very often happens.





1 2 3 4 5
Conium maculatum L.

Hillman

CONIUM MACULATUM. HEMLOCK.

CONIUM *Linnaei Gen. Pl. PENTANDRIA DIGYNIA.*

Raii. Syn. Gen. II. UMBELLIFERÆ HERBÆ.

CONIUM *maculatum* seminibus striatis. *Linn. Syst. Vegetab. p. 229.*

CICUTA *Haller. hist. helv. n. 766. v. 1. p. 337.*

CONIUM *maculatum. Scopoli Fl. Carniol. p. 207:*

CICUTA *major Baubin. Pin. 160.*

CICUTA *Gerard emac. 1061.*

CICUTA *vulgaris major Parkinson 933. Raii Syn. p. 215. Hudson Fl. Angl. p. 100. Störck. Cicut. Suppl. p. 7.*

t. 1.

RADIX biennis, crassitudine digiti, longa usque ad pedalem, in crura sæpe divisa, juniori Pastinacæ haud dissimilis, odoris gravis, et saporis subdulcis: secundo anno in caulescente planta succo fere caret, firma solidiorque evadit.

CAULIS orgyalis, teres, nitidus, lævis, fistulosus, ad basin crassitie pollicis, rore glauco tectus, et maculis sanguineis pictus, versus summum ramosus, et striatus.

FOLIA inferiora magna, etiam bipedalia, atro-virentia, nitentia, multiplicato-pinnata, pinnulis oblongis inciso-ferratis; **SPATHA** fulcata.

INFLORESCENTIA. *Umbella universalis* Radiis plurimis patentibus striatis; *partialis* confimilis.

CALYX: *Involucrum universale* e foliolis 5--7 constat, lanceolato acuminatis, reflexis, margine albidis, fig. 1; *partiale* 3 aut 4 dimidiatis, extrorsum patentibus, fig. 2.

COROLLA: **PETALA** quinque, alba, inæqualia, inflexo-cordata, fig. 3.

STAMINA: **FILAMENTA** quinque, alba, longitudine Corollæ; **ANTHERÆ** albæ, fig. 3.

PISTILLUM: **STYLI** duo, albi, filiformes, non admodum breves; **STIGMATA** subrotunda; **GERMEN** inferum, striatum, fig. 3, 4.

FRUCTUS subrotundus, e binis seminibus fuscescentibus componitur, hinc planiusculus, illinc gibbus, cum striis quinque elevatis crenulatis, fig. 4, 5.

ROOT biennial, the thickness of ones finger, from six inches to a foot in length, frequently forked, and not unlike that of a young Parsnep, of a disagreeable smell and sweetish taste: in the second year of its growth when the plant has a flowering stem, it becomes drier, more firm and solid.

STALK about six inches high, round, shining, smooth and hollow, at bottom the thickness of ones thumb, covered with a blueish kind of powder which easily wipes off, and spotted with red, towards the top branched and striated,

LEAVES. The bottom leaves large, even two feet long, of a dark green colour and shining, many times pinnated, the pinnulæ oblong and sharply cut in; the **SPATHA** grooved.

INFLORESCENCE. The *Universal Umbell* is composed of many striated and spreading Radii; the *Partial Umbell* similar to it.

CALYX: the *Universal Involucrum* consists of 5 or 7 leaves, which are lanceolate, turned back, and whitish at the edges, fig. 1: the *Partial Involucrum* is composed of 3 or 4 leaves, which surround one half of the stalk only, and spread outward, fig. 2.

COROLLA: **PETALS** five, white, unequal, heart-shaped, and bent in at top, fig. 3.

STAMINA: **FILAMENTS** five, white, the length of the Corolla; **ANTHERÆ** white, fig. 3.

PISTILLUM: **GERMEN** beneath the Corolla, striated, fig. 3, 4; **STYLES** two, filiform and not very short; **STIGMATA** round, fig. 3.

FRUIT is roundish, and composed of two brownish seeds, flattish on one side and round on the other, with five notched and elevated ridges, fig. 4, 5.

THE powerfull deleterious properties of this herb have been long known and acknowledged by all botanic writers; whence it has been commonly ranged in the class of Vegetable Poisons. And as such active principles under skilful management, are likely to afford the most efficacious remedies, this plant has been also admitted as an article of the Materia Medica. Until lately however, the use of it was chiefly confined to external applications, where its narcotic qualities may undoubtedly assist in asswaging pain, forwarding suppuration, &c. But in the year 1760, Dr. STÖRCK, a famous Practitioner at Vienna, published a treatise on Hemlock, recommending an extract made of the inspissated juice of the herb to be taken internally, from four grains to sixty, or upwards, every day, as a cure for the *Schrophula*, *Cancer*, and others of the most terrible and inveterate disorders incident to the human body.

Our Physicians though laudably cautious of admitting or trusting to novelties, received Dr. STÖRCK's publication with uncommon ardour, and perhaps no new medicine was ever more immediately or generally tried than this *Extractum Cicutæ*. The success however not answering their expectation, led some to think they had mistaken the plant. The Author was applied to, and this produced a supplement (printed 1764) wherein the species is figured, and clearly shewn to be the *Conium maculatum* of LINNÆUS. It were to be wished this had cleared up all difficulties. In his first treatise the Doctor tells us that the fresh root sliced, yielded a bitter acrid milk, of which a single drop or two being applied to the tip of his tongue, presently rendered it painful, rigid, and so much swelled that he could not speak. Yet it is certain that the roots of our *Hemlock* may be chewed and swallowed in considerable quantities without producing any sensible effect. Mr. ALCHORNE (who I believe was the first that laudably exerted himself in investigating this matter,) assures me that he has tried this in every season of the Year, and in most parts of our Island, without finding any material difference: and that he

he has also been well informed both from *Berlin* and *Vienna*, that the *Hemlock* Roots in those countries, are no more virulent than ours about *London*. Mr. TIMOTHY LANE informs me, that he also with great caution made some experiments of the like kind, and in a short time found he could venture to eat a considerable part of a root without any inconvenience; after that, he had some large roots boiled, and found them as agreeable eating at dinner with meat, as Carrots, which they in taste somewhat resembled: and as far as his experience, joined with that of others informed him, the Roots might be cultivated in Gardens, and either eaten raw like Celery, or boiled as Parsneps or Carrots. That in Spring and Winter they are not woody as in Summer: that he has eaten them from different places and in all seasons; and that he perceived some roots were more pungent than others, but not in any degree worthy notice.

The experiments of these ingenious Gentlemen sufficiently evince the innocence of the roots of this plant, contrary to what has been asserted by Dr. STÖRCK, and hence we may infer that whatever accounts have been related by Authors of their poisonous qualities, the Roots of some other Plant must have been made use of. In the poisonous quality of the *Herb* however all Authors seem agreed, but with respect to its efficacy as a medicine they very much differ. If we may believe Dr. STÖRCK, there is scarce a disease incident to the human body which it either does not cure, or relieve; but it is remarkable that a copious experience of fifteen years, as well in the great Hospitals of this Metropolis as in the private practice of the whole Kingdom, should not have afforded one instance of a perfect cure by the Extract, at least none such has appeared among the valuable collections of cases published by our College of Physicians and other Medical Societies. Both Dr. FOTHERGILL of London, and the late Dr. RUTTY of Ireland, men of the greatest eminence in their profession, have declared that the success attending it has not been equal to what they had reason to expect from Dr. STÖRCK's account of it; (*vid. medical observations and enquiries, vol. 3.*) yet tho' it had failed them in the cure of many of those diseases which unfortunately were the *opprobria medicorum*, it had proved beneficial in various obstinate complaints; Scrophulous tumours were to appearance dissolved by it; the progress both of occult and ulcerated Cancers was retarded, the pain alleviated, and the discharge changed for the better in every respect; divers putrid and fordid Ulcers were by the use of *Hemlock* remarkably mended in their discharge, and disposed to heal, in some of which the Sublimate had been given in vain; hence the Extract is still frequently used, and will probably continue to be prescribed, because its effects as an Anodyne will often afford at least a temporary relief, and because in desperate diseases a doubtful remedy seems better than none at all.

The taking of the Extract is generally attended with a giddiness and often with a pain of the head, nausea, and other disagreeable symptoms; in some however its effects are apparently anodyne, as it eases pain and promotes rest even where Opium has failed.

Physicians seem somewhat divided about the best mode of exhibiting this medicine, some recommending the extract as being most easily taken in the form of pills, others the powder, as not being subject to that variation which the extract is liable to from being made in different ways. With respect to the period likewise at which the plant should be gathered, they seem not perfectly agreed, some recommending it when in its full vigour, and just coming into bloom, others when the flowers are going off and the whole plant has acquired a yellowish hue. That the Extract might be at all times equally active, and uniformly prepared, Dr. CULLEN has for many years recommended the making it from the unripe seeds, and this mode the College of Physicians at Edinburgh has thought proper to adopt in their new Pharmacopœia.

Hemlock grows very frequently on banks by the sides of Roads, by hedge sides, and in Fields and Gardens, flowering in the month of July.

We have a common English Proverb that *what is one Mans Meat is another mans Poison*, and agreeable to this are the lines of LUCRETIVS which relate to this plant;

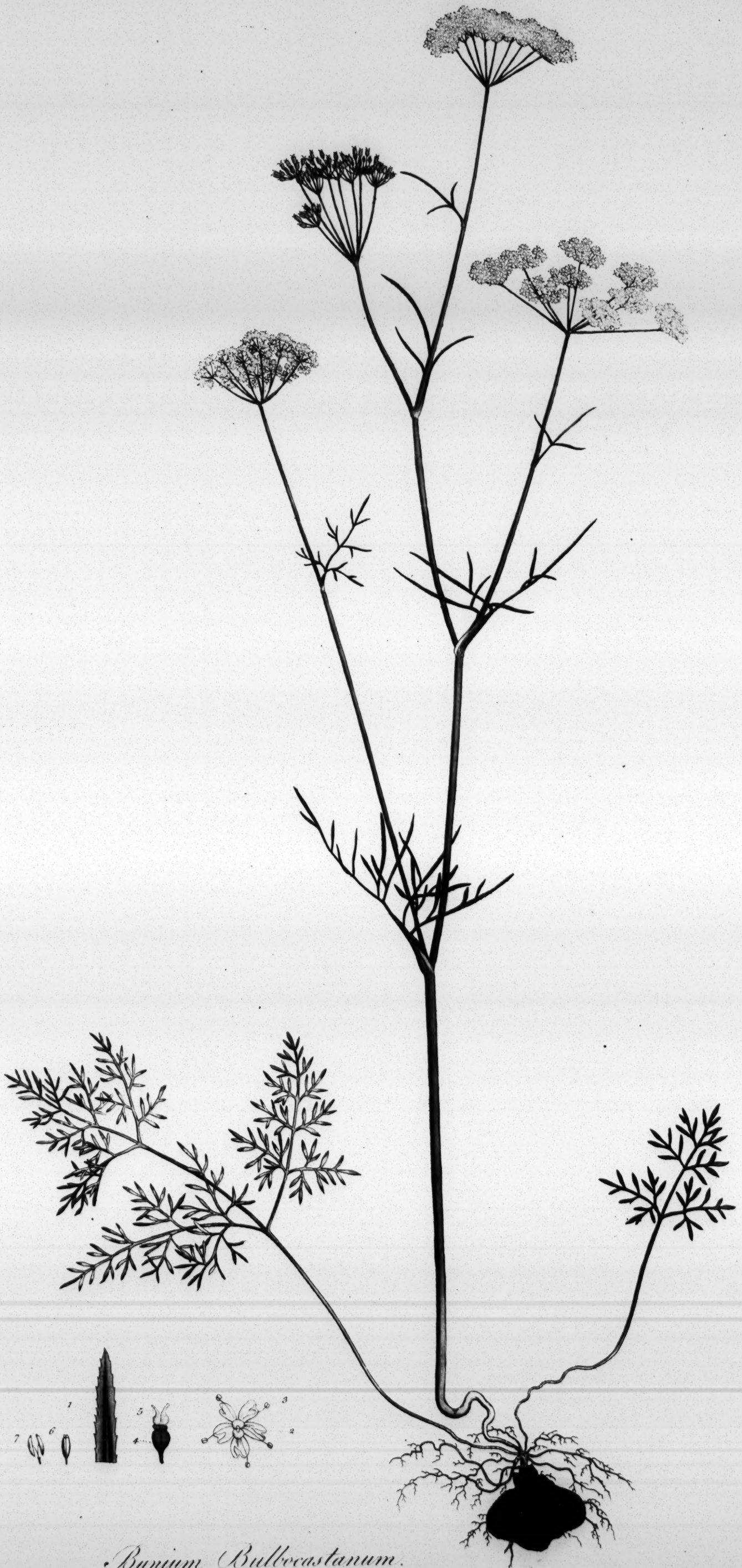
“*Pinguescere sæpe Cicutâ*
“*Barbigeros pecudes homini quæ est acre venenum.*”

That it affords nourishment to Birds likewise there is sufficient evidence, our learned Philosopher and accurate Naturalist Mr. RAY, found in the Crop of a Thrush abundance of *Hemlock* seeds, at a time too when other vegetable food might be had in abundance. It appears to be eaten by very few or no Insects.

The dried stems or kexes are used by Boys for various purposes.

The *Hemlock* is obviously distinguished from our other umbelliferous plants by its large and spotted stalk, by the dark and shining green colour of its bottom leaves, and particularly by their disagreeable smell when bruised, and which according to Dr. STÖRCK resembles that of Mice. The *Fools Parsley* and *Scandix with rough seeds* are the most likely to be mistaken for this poisonous plant, but may easily be distinguished if attention be paid to the descriptions and figures we have already given of them.





Bunium Bulbocastanum.

BUNIU M BULBOCASTANUM. EARTH-NUT.

BUNIU M *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

Corolla uniformis. *Umbella* conferta. *Fruſus* ovatus.

Raii Syn. Gen. 11. UMBELLIFERÆ HERBÆ.

BUNIU M *Bulbocastanum.* *Lin. Syst. Vegetab.* p. 229. *Sp. Pl.* p. 349.

BULBOCASTANUM. *Haller Hiſt.* n. 783.

BULBOCASTANUM. *I. B.* III. 2. 30.

BULBOCASTANUM majus folio apii. *Baubin. Pin.* 162.

BULBOCASTANUM majus et minus. *Ger. emac.* 1065.

NUCULA terreſtris major. *Parkinſ.* 893. *Raii Syn.* p. 209. Earth-nut, Kipper-nut, Pig-nut. *Hudſon. Fl. Angl. ed. 2.* p. 122. *Lightfoot Fl. Scot.* p. 156. *Oeder. Fl. Dan. t.* 220.

RADIX	perennis, tuberoſa, extus caſtanei coloris, intus alba, ſolida, fibras tum ab imo tum a lateribus promens tenues, guſtu ſubdulci grato, profunde in terra deliteſcente.	ROOT	perennial, tuberous, on the outside of a cheſnut colour, within white, ſolid, putting forth ſlender fibres from the ſides as well as the bottom, of an agreeable ſweetiſh taſte, lying deep in the ground.
CAULIS	pedalis, ad bipedalem, erectus, teres, firmulus, craſſitie pennæ coracis, ſubſtriatus, glaber, penitus viridis, ramoſus.	STALK	from one to two feet high, upright, round, ſtiffiſh, the thickneſs of a crow-quill, ſlightly ſtriated, ſmooth, throughout of a green colour, and branched.
FOLIA	radicalia longe petiolata, caulina ſeſſilia, omnibus tenuiſſime diviſis, fœniculi modo, ſaturate viridibus, marginibus foliorum ad lentem aculeato-ciliatis, fig. 7. auct. Spatha brevis, ſulcatus, lævis, margine membranaceâ, albidâ.	LEAVES	from the root ſtanding on long foot-ſtalks, thoſe of the ſtalk ſeſſile, all of them very finely divided like fennel, the ſmall leaves edged with prickly hairs, fig. 1. magn. Sheath ſhort, grooved, ſmooth, the edge membranous and whitish.
UMBELLÆ	plures, univerſalis multiplex radiis ſeptem ad duodecim, partialis breviffima, conferta, radiis circiter duodecim.	UMBELLS	ſeveral, the general one compoſed of many rays from ſeven to twelve; the partial one very ſhort, the rays about twelve and cloſe.
INVOLUCRUM	univerſale polyphyllum, lineare, breve, ſæpe nullum; parziale ſetaceum, longitudine umbellulæ, aliquando nullum. Perianthium proprium vix manifeſtum,	INVOLUCRUM	the general one compoſed of many leaves, linear, ſhort, often wanting; the partial one ſetaceous, the length of the ſmall umbel, often wanting. Partial Perianthium ſcarcely manifeſt.
COROLLA	univerſalis uniformis, ſoſculi plerique fertiles; propria Petalis quinque, inflexo-cordatis æqualibus. fig. 2.	COROLLA	general Corolla uniform, moſt of the flowers fertile; individual one compoſed of five Petals, heart-shaped, bent in at top, and equal. fig. 2.
STAMINA	FILAMENTA quinque alba, ſubulata, corolla longiora, decidua. ANTHERÆ ſimplices, flavefcentes. fig. 3.	STAMINA	five FILAMENTS of a white colour, tapering, longer than the corolla, deciduous. ANTHERÆ ſimple and yellowiſh. fig. 3.
PISTILLUM	GERMEN oblongum, inferum, viride. STYLI duo albi, ſuberecti. STIGMATA obtuſa. fig. 4, 5.	PISTILLUM	GERMEN oblong, beneath the corolla, of a green colour. STYLES two, white, nearly upright. STIGMATA blunt. fig. 4, 5.
SEMINA	duo, oblongo-ovata, hinc convexa inde plana, glabra, ſubaromatica. fig. 6, 7.	SEEDS	two, of an oblong-ovate ſhape, convex on one ſide and flat on the other, ſmooth, and ſome-what aromatic. fig. 6, 7.

Children are frequently in the practice of digging up and eating the knobby roots of this plant, which, by ſome, are ſuppoſed to reſemble the cheſnut in its taſte, whence its name of *Bulbocastanum*. Pigs alſo ſeek for it with avidity, from which circumſtance it has alſo obtained the name of *Pig-nut*.

Few of our Umbelliferi have the characteristic marks which diſtinguiſh the Bunium; the principal of which are its knobbed root, and finely divided fennel-like leaves. The one which approaches the neareſt to it is the *Oenanthe ſiſtuloſa*, eſpecially when growing on ditch banks, where it is frequently thrown when the ditches are cleaned, or when it is cultivated in gardens; the roots, in ſuch ſituations, are ſo ſimilar to thoſe of the Bunium, as to deceive even good judges. The radical leaves of the plant are alſo finely divided; it would be no wonder, therefore, if they ſhould be miſtaken for the Earth-nut.

A paper was published, about a year ago, in one of the Magazines, the *London*, if I miſtake not, in which the roots of the *Oenanthe crocata*, well known for their poiſonous effects, were ſaid to have been eaten for thoſe of this plant. We ſuſpect, however, from various circumſtances, that they were the roots of the *Oenanthe ſiſtuloſa*. It is our intention to make a more minute enquiry into this matter, and give our reaſons more at large for this ſuſpicion, when we figure that ſpecies.

The Earth-nut with us grows chiefly in woods, paſtures, and orchards, and flowers in June.







Euthusa cynapium.

ÆTHUSA CYNAPIUM. FOOL'S PARSLEY.

ÆTHUSA *Linnaei Gen. Pl. PENTANDRIA DIGYNIA.*

Raii Syn. Gen. II. UMBELLIFERÆ HERBÆ.

ÆTHUSA (*Cynapium*) foliis conformibus. *Linnaei Syst. Vegetab. p. 236. Flor. Suecic. p. 92.*

ÆTHUSA. *Haller. hist. n. 765.*

CICUTA minor petroselinio similis. *Baubin. Pin. p. 160.*

CICUTARIA Apii folio. *I. Baubin.*

CICUTARIA tenuifolia *Gerard. emac. 1063.*

CICUTA minor five fatua *Parkinson. 933. Raii Syn. p. 215. the lesser Hemlock or Fool's Parsley. Scopoli Fl. Carniol. p. 206. Hudson Fl. Angl. p. 107. Hill's British Herbal small Hemlock tab. 58. icon pessima.*

RADIX annua, fusiformis, alba, minimi digiti crassitudine, paucis fibris instructa.

CAULIS pedalis ad bipedalem, erectus, ramosus, striatus, fistulosus, glaucus, versus basin sæpe purpureus, non vero maculatus.

FOLIA radicalia et ramea conformia, lævia, superne atro-virentia, inferne pallidiora, nitentia, duplicato-pinnata, pinnis pinnatifidis, profunde incisis, pinnulis ovato-acutis, mucronatis. *Vaginae* ad basin petiolorum parvæ, læves, marginibus membranaceis.

PETIOLI erecti, fulcati.

UMBELLA universalis patens, radiis interioribus per gradus brevioribus, intimis brevissimis; partialis universali similis.

INVOLUCRUM universale nullum, parziale dimidiatum, extus positum, foliolis tribus longissimis linearibus pendulis, fig. 1.

COROLLA: PETALA quinque, alba, obcordata, inæqualia, apice inflexa, exteriora majora, fig. 2.

STAMINA: FILAMENTA quinque, alba, longitudine corollæ, inflexa: ANTHERÆ albæ, nonnunquam rubellæ, fig. 3.

PISTILLUM: GERMEN inferum, glandulâ virescente coronatum: STYLI duo, primum erecti, dein deflexi: STIGMATA obtusa, fig. 4.

PERICARPIUM nullum: FRUCTUS ovato-subrotundus, striatus, bipartibilis, fig. 5.

SEMINA duo, pallide fusca, hinc convexa, profunde striata, hinc plana, figurâ ovato-acutâ notata, fig. 6.

ROOT annual, tapering, of a white colour, about the thickness of the little finger, furnished with few fibres.

STALK from one to two feet high, upright, branched, striated or slightly grooved, hollow, covered with a blueish kind of powder which easily wipes off, towards the bottom frequently of a purple colour, but not spotted.

LEAVES: the bottom leaves and those of the branches similar, smooth, on the upper side of a dark green colour, underneath paler and shining, twice pinnated, the leaves pinnatifid and deeply cut in, the small leaves or pinnulæ oval and terminating in a fine point. The SHEATHS at the base of the foot-stalks small, smooth and membranous at the edges.

FOOT-STALKS of the flowers, upright and grooved.

UMBEL: the universal umbel spreading, the inner radii gradually shorter, the inmost very short; the partial umbel like the universal.

INVOLUCRUM: the universal INVOLUCRUM wanting, the partial one placed externally, and only surrounding one half of the umbel, composed of three very long, linear, and pendulous leaves, fig. 1.

COROLLA: five unequal, heart-shaped, white PETALS, bent in at top, the outer ones largest, fig. 2.

STAMINA: five white FILAMENTS the length of the Corolla, bending in: ANTHERÆ white, sometimes reddish, fig. 3.

PISTILLUM: GERMEN placed below the corolla, and crowned by a glandular substance of a greenish colour: two STYLES first upright, afterwards bending downward: STIGMATA blunt, fig. 4.

SEED-VESSEL wanting: the FRUIT or unripe seed of an oval roundish shape, striated, and dividing into two parts, fig. 5.

SEEDS two, of a pale brown colour, convex and deeply striated on one side, flat on the other, and marked with a figure of an oval pointed shape, fig. 6.

ONE of the principal advantages resulting to mankind from Botany, is the rightly ascertaining those plants which are used for food, from those which are known to be poisonous. It not unfrequently happens that both these kinds of Herbs grow in the same soil, nay often in the same bed together, and so similar are they in their general appearance, that the indiscriminating eye of the common observer readily mistakes the one for the other, and hence diseases fatal in their consequences sometimes ensue. To point out then the most obvious distinctions between such kinds of plants, is not only our business but our duty.

The Fool's Parsley seems generally allowed to be a plant which possesses poisonous qualities.

Baron HALLER has taken a great deal of pains to collect what has been said concerning it, and quotes many authorities to shew that this plant (on being eaten) has been productive of the most violent symptoms, such as anxiety, hiccough, and a delirium even for the space of three months, stupor, vomiting, convulsions and death: He suspects however that the common Hemlock may sometimes have had a share in producing these symptoms, as he finds in authors that the Fool's Parsley had been used by a whole family without any bad effect, although he imagines this might be owing to the smallness of the quantity eaten. As a corroborating proof of its deleterious quality, LINNÆUS asserts that it proves fatal to geese if they happen to eat it.

Altho' it seems rather doubtful whether it be so poisonous to mankind as is represented, yet it will perhaps be most prudent to consider it as such, until future experiments shall determine its effects with more certainty.

The plants to which this bears the greatest resemblance, are common Garden Parsley and common Hemlock, *Conium maculatum*; this similarity has been observed by most Botanic Writers, some of whom have called it a kind of Hemlock, others a kind of Parsley; it differs however considerably from both these Genera. The colour of its leaves alone, is nearly sufficient to distinguish it from Parsley; those of common Parsley are of a yellowish green colour, those of Fool's Parsley of a very dark green, and much more finely divided; the leaves of Parsley when bruised have a strong but not disagreeable smell, those of Fool's Parsley have very little smell in them. These marks if attended to are sufficient to distinguish the leaves of these two plants, and in the state of leaves they are most liable to be taken for one another, as they grow together in Gardens. Where much Parsley is used, the Mistress of the house therefore would do well to examine the Herbs previous to their being made use of; but the best precaution will be always to sow that variety called curled Parsley, which cannot be mistaken for this or any other plant.

It is distinguished from Hemlock by being in every respect smaller, and not having that strong disagreeable smell which characterizes the leaves of that plant; the stalk likewise is not spotted as in the Hemlock; and lastly it is distinguished from all our umbelliferous plants by the three long, narrow, pendulous leaves which compose its partial involucre, and which are placed at the bottom of each of the small Umbels.

It grows very common in Gardens, and all kinds of cultivated ground, and flowers in July and August.







Ranunculus • acris

SCANDIX PECTEN. SHEPHERDS NEEDLE, or VENUS'S COMB.

SCANDIX *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

*Corolla radiata. Fructus subulatus. Petala emarginata. Flosculi disci
sæpe masculi.*

Raii Syn. Gen. 11. UMBELLIFERÆ HERBÆ.

SCANDIX *Pecten* feminibus lævibus rostro longissimo. *Lin. Syst. Veget. ed. 14. p. 287. Sp. Pl. p. 368.*

MYRRHIS feminis cornu longissimo. *Haller hist. n. 754.*

SCANDIX *Pecten. Scopoli Fl. Carn. n. 349.*

SCANDIX femine rostrato vulgaris. *Bauh. Pin. 152.*

PECTEN VENERIS I. B. III. 2. 71.

PECTEN VENERIS seu scandix. *Ger. emac. p. 1040.*

SCANDIX vulgaris, seu Pecten Veneris. *Park. 916. Raii Syn. p. 207. Shepherds Needle, or
Venus's Comb. Hudson Fl. Angl. ed. 2. p. 123. Lightfoot Fl. Scot. p. 166. Jacquin
Fl. Austr. t. 263.*

RADIX annua, simplex, albida, paucis fibrillis in- structa.	ROOT annual, simple, whitish, furnished with few fibres.
CAULIS nunc solitarius, nunc plures ex eadem ra- dice, ramosi, diffusi, villosi, semipedales, aut pedales, inferne purpurei, aut lineis pur- pureis striati, teretes, ad geniculos vix increas- cati.	STALK sometimes single, sometimes several from the same root, branched, spreading, villous, half a foot or a foot in height, below purple, or striped with purple lines, round, and scarcely thickened at the joints.
FOLIA dauci instar tenuiter divisa, ad basin vagi- nantia, laciniis linearibus, bifidis trifidisve, acutis, ad lentem rariter ciliatis, fig. 1.	LEAVES finely divided like those of wild carrot, forming a sheath at bottom, segments linear, bifid or trifid, pointed, and, if viewed with a microscope, thinly edged with hairs, fig. 1.
INVOLUCRUM universale nullum.	INVOLUCRUM: general Involucrum wanting.
UMBELLA: universalis plerumque biradiata.	UMBEL: general Umbel usually composed of two radii.
INVOLUCRUM parziale magnum, pentaphyllum, foliolis nervosis, ciliatis, bifidis.	INVOLUCRUM: partial Involucrum large, five- leaved, leaflets ribb'd, edged with hairs, and bifid.
FLORES Umbellulæ quinque ad septem, plerumque fertiles, albæ.	FLOWERS of the small Umbel from five to seven, for the most part fertile and white.
COROLLA: PETALA quinque, obverse ovata, apice inflexa, patentia, exteriore majore, fig. 2.	COROLLA: five PETALS, inversely ovate, bent in at the tip, spreading, the outermost petal largest, fig. 2.
STAMINA: FILAMENTA quinque, alba; ANTHERÆ primo virescentes, demum nigricantes, fig. 3.	STAMINA five white FILAMENTS; ANTHERÆ first greenish, finally blackish, fig. 3.
PISTILLUM: GERMEN brevissime pedicellatum, oblongum, hirsutulum; STYLI duo, subu- lati, erecti, persistentes; STIGMATA simpli- cia, fig. 4, 5.	PISTILLUM: GERMEN standing on a very short footstalk, oblong and slightly hirsute; STYLES two, tapering, upright and permanent; STIGMATA simple, fig. 4, 5.
SEMINA duo, fusca, hinc convexa, striata, inde plana hirsutula, in rostrum longissimum ex- currentia, fig. 7.	SEEDS two, brown, convex and striated on one side, and flat on the other, slightly hirsute, running out into a very long beak, fig. 7.
NECTARIUM: ad basin styli, purpurei coloris, fig. 6.	NECTARY at the base of the styles, of a purple colour, fig. 6.

Common in corn fields, not only in Great-Britain, but in all the southern parts of Europe, sometimes so plentiful, as to prove injurious to the farmer.

Is particularly distinguished from all our other umbelliferous plants by the uncommon length of the beak of the seeds, as well as by the singularity of the leaves of the Involucellum, which are uncommonly large and bifid.

Flowers in June, and ripens its seed in July.

Its seed-leaves, on their first appearance above ground, are uncommonly long.



Umbelliferae - Pecten

SCANDIX PECTEN. SHEPHERDS NEEDLE, or VENUS'S COMB.

SCANDIX *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

*Corolla radiata. Fructus subulatus. Petala emarginata. Flosculi disci
saepe masculi.*

Raii Syn. Gen. 11. UMBELLIFERÆ HERBÆ.

SCANDIX *Pecten* feminibus lævibus rostro longissimo. *Lin. Syst. Veget. ed. 14. p. 287. Sp. Pl. p. 368.*

MYRRHIS *feminis cornu longissimo. Haller hist. n. 754.*

SCANDIX *Pecten. Scopoli Fl. Carn. n. 349.*

SCANDIX *femine rostrato vulgaris. Bauh. Pin. 152.*

PECTEN VENERIS *I. B. III. 2. 71.*

PECTEN VENERIS *feu scandix. Ger. emac. p. 1040.*

SCANDIX *vulgaris, feu Pecten Veneris. Park. 916. Raii Syn. p. 207. Shepherds Needle, or
Venus's Comb. Hudson Fl. Angl. ed. 2. p. 123. Lightfoot Fl. Scot. p. 166. Jacquin
Fl. Austr. t. 263.*

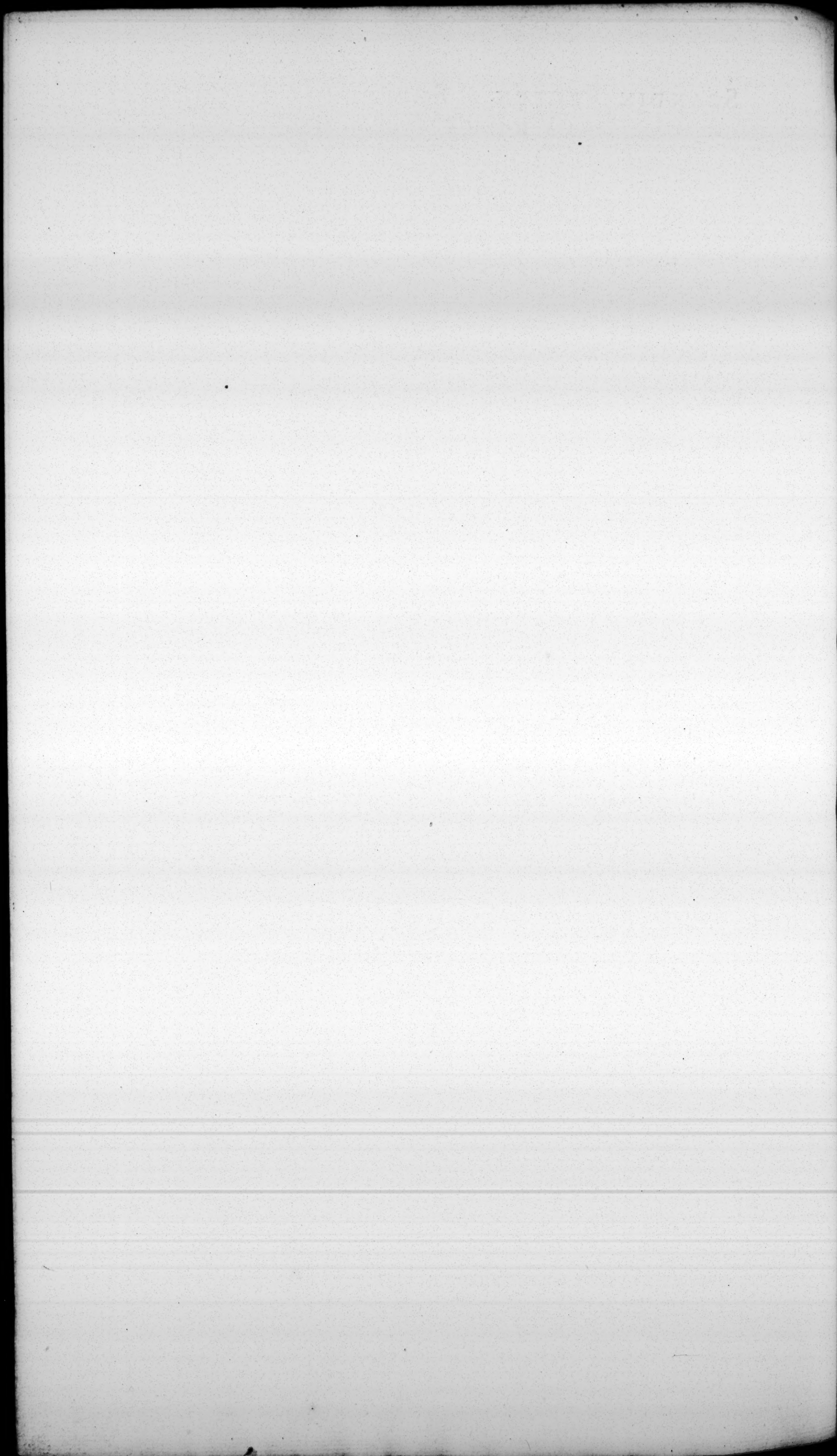
RADIX annua, simplex, albida, paucis fibrillis instructa.	ROOT annual, simple, whitish, furnished with few fibres.
CAULIS nunc solitarius, nunc plures ex eadem radice, ramosi, diffusi, villosi, femipedales, aut pedales, inferne purpurei, aut lineis purpureis striati, teretes, ad geniculos vix incrassati.	STALK sometimes single, sometimes several from the same root, branched, spreading, villous, half a foot or a foot in height, below purple, or striped with purple lines, round, and scarcely thickened at the joints.
FOLIA dauci instar tenuiter divisa, ad basin vaginantia, laciniis linearibus, bifidis trifidisve, acutis, ad lentem rariter ciliatis, fig. 1.	LEAVES finely divided like those of wild carrot, forming a sheath at bottom, segments linear, bifid or trifid, pointed, and, if viewed with a microscope, thinly edged with hairs, fig. 1.
INVOLUCRUM <i>universale</i> nullum.	INVOLUCRUM: <i>general</i> Involucrum wanting.
UMBELLA: <i>universalis</i> plerumque biradiata.	UMBEL: <i>general</i> Umbel usually composed of two radii.
INVOLUCRUM <i>partiale</i> magnum, pentaphyllum, foliolis nervosis, ciliatis, bifidis.	INVOLUCRUM: <i>partial</i> Involucrum large, five-leaved, leaflets ribb'd, edged with hairs, and bifid.
FLORES <i>Umbellulæ</i> quinque ad septem, plerumque fertiles, albæ.	FLOWERS of the small <i>Umbel</i> from five to seven, for the most part fertile and white.
COROLLA: PETALA quinque, obverse ovata, apice inflexa, patentia, exteriore majore, fig. 2.	COROLLA: five PETALS, inversely ovate, bent in at the tip, spreading, the outermost petal largest, fig. 2.
STAMINA: FILAMENTA quinque, alba; ANTHERÆ primo virescentes, demum nigricantes, fig. 3.	STAMINA five white FILAMENTS; ANTHERÆ first greenish, finally blackish, fig. 3.
PISTILLUM: GERMEN brevissime pedicellatum, oblongum, hirsutulum; STYLI duo, subulati, erecti, persistentes; STIGMATA simplicia, fig. 4, 5.	PISTILLUM: GERMEN standing on a very short footstalk, oblong and slightly hirsute; STYLES two, tapering, upright and permanent; STIGMATA simple, fig. 4, 5.
SEMINA duo, fusca, hinc convexa, striata, inde plana hirsutula, in rostrum longissimum excurrentia, fig. 7.	SEEDS two, brown, convex and striated on one side, and flat on the other, slightly hirsute, running out into a very long beak, fig. 7.
NECTARIUM: ad basin stylorum, purpurei coloris, fig. 6.	NECTARY at the base of the styles, of a purple colour, fig. 6.

Common in corn fields, not only in Great-Britain, but in all the southern parts of Europe, sometimes so plentiful, as to prove injurious to the farmer.

Is particularly distinguished from all our other umbelliferous plants by the uncommon length of the beak of the seeds, as well as by the singularity of the leaves of the Involucellum, which are uncommonly large and bifid.

Flowers in June, and ripens its seed in July.

Its seed-leaves, on their first appearance above ground, are uncommonly long.







Scandix Anthriscus

SCANDIX ANTHRISCUS. SCANDIX WITH ROUGH SEEDS.

SCANDIX *Linnaei Gen. Pl.* PENTANDRIA DIGYNIA

Raii Syn. Gen. II. UMBELLIFERÆ HERBÆ

SCANDIX *Anthriscus* feminibus ovatis hispidis, corollis uniformibus, caule lævi. *Linnaei Syst. Vegetab. p.* 237. *Flor. Suecic. p.* 93.

CAUCALIS vaginis lanuginosis, foliis triplicato-pinnatis, feminibus rostratis. *Haller hist. n.* 743.

MYRRHIS sylvestris, feminibus asperis. *Baubin pin.* 160. *Parkinson* 935. *Ger. emac.* 1038. *Raii Syn. p.*

220. Small Hemlock-Chervil with rough Seeds. *Hudson Fl. Angl. p.* 108. *Jacquin Flor.*

Austriac Vol. 2. p. 35. *tab.* 154.

RADIX annua, parva, albida, subinsipida.

CAULIS pedalis ad tripedalem, sæpe altior, suberectus, teres, fistulosus, lævis, ad genicula tumidus et substriatus, plerumque viridis.

FOLIA. Vaginæ ad basin foliorum magnæ, marginibus lanuginosis; Folia mollia, tenera, multiplicate pinnata, hirsutula, ex luteo-virentia.

INFLORESCENTIA *Umbella*. UMBELLÆ obliquæ, pedunculatæ: Pedunculus universalis RADII brevior, RADII universales 3—5. glabri, *partiales* 2—6.

CALYX: *Involucrum universale* nullum. *Partiale* plerumque pentaphyllum, foliolis lanceolato-acuminatis, ciliatis, persistentibus *fig.* 1.

COROLLA: PETALA quinque, minima, subæqualia, alba, subcordata, apicibus inflexis. *fig.* 2.

STAMINA: FILAMENTA quinque, petalis paulo breviora; ANTHERÆ primum virides, dein fuscae *fig.* 3.

PISTILLUM: GERMEN oblongum, inferum, subcompressum, hirsutum, STYLI duo breves. *fig.* 5.

SEMINA duo, oblonga, e fusco-nigricantia, hinc fuscato-plana, inde convexa, rostrata, pilis rigidis hamatis undique aspera *fig.* 6.

ROOT annual, small, whitish, with little taste.

STALK from one to three feet high, frequently taller, nearly upright, round, hollow, smooth, swelled and slightly striated at the joints, and most commonly green.

LEAVES. The sheaths formed by the base of the leaves are large and downy at the edges: the leaves soft, tender, many times pinnated, slightly hairy, and of a yellowish green colour.

INFLORESCENCE an *Umbell*, the UMBELLS oblique, standing on footstalks, the general or universal footstalk shorter than the RADII; the *universal* RADII from 3 to 5, the *partial* RADII from 2 to 6.

CALYX. The *universal Involucrum* wanting, the *Partial* one generally composed of five leaves, which are pointed, hairy at the edges, and continue. *fig.* 1.

COROLLA: five PETALS very minute, nearly equal, white, somewhat heart shaped, the tips bending in, *fig.* 2.

STAMINA: five FILAMENTS, a little shorter than the Petals; the ANTHERÆ first green, afterwards brown, *fig.* 3.

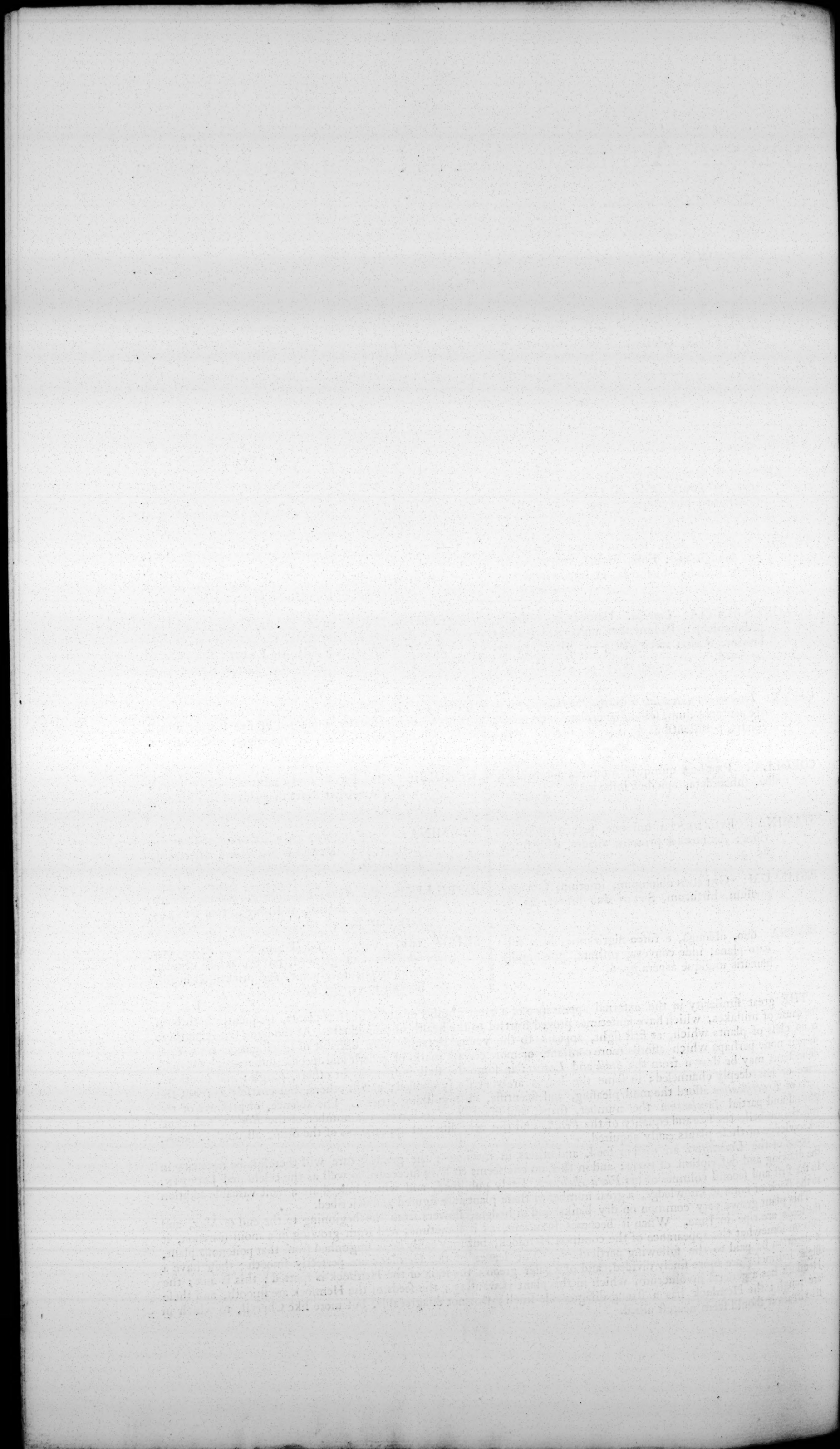
PISTILLUM: the GERMEN oblong, placed beneath the Corolla, flattish, and rough, two STYLES very short *fig.* 5.

SEEDS two, oblong, of a dark brown colour, on one side flat and grooved, on the other convex, running out to a point, and prickly with stiff hooked hairs, *fig.* 6.

THE great similarity in the external appearance of a great number of umbelliferous plants, frequently hath been the cause of mistakes, which have sometimes proved hurtful to the health of individuals. At the same time that there is no class of plants which, at first sight, appears to the young Botanist more difficult of investigation than this, there is none perhaps which affords more constant, or more certain marks of generic and specific difference. Obvious distinctions may be drawn from the *Stalk* and *Leaves*: in some the stalk is smooth in others, rough; and in others, more or less deeply channeled; in some the leaves are very finely divided; and in others, but coarsely so; but the parts of *Fruification* afford the most pleasing, and scientific, distinguishing marks. The absence, or presence of the general and partial *Involucrum* the number, shape, and situation of its leaves, the number of the *Radii* which compose the umbell, the size and equality of the *Petals*, and the very different appearances of the *Seeds*, all unite to render a knowledge of these plants easily acquired.

Some of the *Umbelliferi* are used in food, and others in medicine; the greatest care will therefore be necessary in the drawing and description of these; and in this, no one seems to have succeeded so well as the celebrated JACQUIN. In the first and second volumes of his *Flora Austriaca*, lately published, and which indeed are a most valuable addition to the stock of botanic knowledge, a great number of these plants are figured and described.

This plant grows very common on dry banks and in hedges, flowers from the beginning to the end of May, and the seeds are ripe in June. When it becomes luxuriant, as it sometimes will from growing in a moist situation, it puts on somewhat the appearance of the common Hemlock, but may easily be distinguished from that poisonous plant, if attention be paid to the following particulars: The leaves of the Hemlock are perfectly smooth; these have a slight hairiness, are more finely divided, and of a paler green; the stalk of the Hemlock is spotted; this is not; the Hemlock has a general involucre, which in this plant is wanting; the seeds of the Hemlock are smooth, and these are rough; the Hemlock has a strong disagreeable smell; this not disagreeable, but more like Chervil, to which in its virtues it should seem nearest allied.







Charophyllum sylvestre.

CHÆROPHYLLUM SYLVESTRE. COMMON COW-PARSLEY.

CHÆROPHYLLUM. *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

Involucr. reflexum, concavum. *Petala* inflexo-cordata. *Fructus* oblongus, lævis.

Raii Syn. Gen. 11. UMBELLIFERÆ HERBÆ.

CHÆROPHYLLUM *sylvestre* caule lævi striato, geniculis tumidiusculis. *Lin. Syst. Vegetab.* p. 238.

Sp. Pl. p. 369. *Fl. Suec.* n. 257.

CEREFOLIUM foliis acute dentatis triplicato-pinnatis, glabris, nervis hirsutis. *Hall. & Hyf.* n. 748.

CHÆROPHYLLUM *sylvestre*. *Scopoli Fl. Carn.* n. 366.

MYRRHIS *sylvestris* feminibus lævibus. *Baubin. Pin.* 170.

CICUTARIA vulgaris. *Dod. Pempt.* 701.

MYRRHIS *sylvestris*. *Parkinson,* 935.

CICUTARIA alba Lugdunensis. *Ger. emac.* 1038. *Raii Syn.* p. 207. Wild Chervil. *Hudson. Fl. Angl.*

p. 124. *Lightfoot Fl. Scot.* p. 167.

RADIX perennis, crassitie digiti intermedii, ad basin sæpius ramosa, extus pallide fusca, intus al-bida, succum vix lacteum fundens.

CAULIS bipedalis et ultra, erectus, crassitie digiti mi-nimi, fistulosus, sulcatus, plerumque villosus, et sæpius purpurascens, ramosus, geniculatus, geniculis paululum incrassatis; rami suberecti, minus pubescentes.

FOLIA radicalia multiplicato-pinnata, sæpe amplissima; Costæ hirsutæ, fistulosæ, dorso acute angulatæ, antice canaliculatæ, ortæque ex vagina brevi striatæque, pinnulæ lanceolatæ, acute, ferrato-incisæ, plerumque hirsutæ; caulina et ramea successive minora minusque divisa, cæterum similia, superiora sæpe opposita aut terna cum totidem ramis axillaribus.

UMBELLÆ planiusculæ, nec densæ, nec plantæ ratione amplæ, ante anthesin nutantes, radiis compo-sitæ a septem ad octodecim, gracilibus, tereti-bus et glabris.

INVOLUCRUM universale nullum, parziale pentaphyl-lum et ultra, foliolis acuminato-ovatis, con-cavis, glabris, ad oras subciliatis, umbellulis duplo brevioribus, tandem reflexis.

FLORES inodori, pauci steriles.

COROLLA: PETALA plana, et obverse ovata, albida, centralium flosculorum subæqualia, exteriorum vero extimum majus, et subcordato emargina-tum. *fig. 1, 2, 3.*

STAMINA: FILAMENTA quinque albida, brevia et caduca. ANTHERÆ subrotundæ, didymæ, fla-vescentes. *fig. 4.*

PISTILLUM: GERMEN inferum, turbinatum, utrinque compressiusculum, lucidum; glandula nectari-fera coronatum. STYLI duo, albi, parviusculi. STIGMATA simplicia. *fig. 5, 6.*

SEMINA duo, oblonga, antice fulcata, cæterum teretia, lævia, nitida, nigricantia, inodora, sapore vix ullo. *fig. 7.*

ROOT perennial, the thickness of the middle finger, most commonly branching out from the base, externally of a pale-brown colour, internally whitish, full of a juice which can scarcely be called milky.

STALK two feet high and upwards, upright, the thick-ness of the little finger, hollow, grooved, generally villous, and most commonly purplish, branched, jointed, joints somewhat thickened; branches nearly upright, less hoary than the stalk.

LEAVES next the root many times pinnated, often very large; the Ribs hirsute, fistulous, forming a sharp angle on the back, hollow in front, and arising from a short striated sheath, the small pinnæ lanceolate, pointed, deeply and irregu-larly ferrated, generally hirsute, the leaves of the stalk and branches successively smaller, and less divided, in other respects similar, the up-per ones often opposite or growing three toge-ther, with as many axillary branches.

UMBELLS flattish, neither thick nor large for the size of the plant, drooping before the expansion of the flowers, composed of seven to eighteen radii, which are slender, round, and smooth.

INVOLUCRUM the general one wanting, the partial one composed of five leaves or more, which are ovate, pointed, hollow, smooth, somewhat hairy on the edges, twice as short as the small umbells, finally turned back.

FLOWERS scentless, a few of them barren.

COROLLA: PETALS flat, inversely ovate, whitish, those of the central flowers nearly equal, but the outermost of the outer ones largest, some-what heart-shaped and nicked. *fig. 1, 2, 3.*

STAMINA: FILAMENTS five, whitish, short, and de-ciduous. ANTHERÆ nearly round, double, and yellowish. *fig. 4.*

PISTILLUM: GERMEN placed beneath the corolla; broadest at top, flattish on both sides, shining, crowned with a nectariferous gland. STYLES two, white and small. STIGMATA simple. *fig. 5, 6.*

SEEDS two oblong, with a groove in the fore-part, round, smooth, shining, blackish, without scent, and almost tasteless. *fig. 7.*

In many parts of the kingdom this plant is well known by the name of *Cow-parsley*, a term we adopt in preference to *Cow-weed*, or *wild Chervil*; the former being applicable to the *Cow-parsnep* also, and the latter more properly belonging to the *Scandix Cerefolium* and *odorata*.

LINNÆUS's specific character of this *Chærophylum* is only applicable to the upper part of the plant: the lower part of the stalk, by which it is most obviously distinguished, is strongly grooved, and covered with numerous short hairs.

It is one of the most common, as well as the earliest in blossom, of our *umbelliferi*, flowering in warm situations in *April*, and generally with us in *May*. It grows chiefly in orchards, pastures, and under hedges. In sheltered situations it produces a large crop of early foliage; hence it has been recommended by some writers on agriculture as worthy the attention of the Farmer, more especially as cows are said to be fond of it. To rabbits it is a luxurious treat, as those who keep them pretty generally know. In time of scarcity the young leaves, in some parts of the kingdom, are used as a pot-herb: the *boiled roots* are said to have a poisonous quality, perhaps without any foundation.

LINNÆUS remarks, in his *Flora Suecica*, that its presence indicates a fertile soil; and that its flowers are capable of communicating a yellow dye to woollen cloth.







Charophyllum temulum.

CHÆROPHYLLUM TEMULUM. SMALL COW-PARSLEY.

CHÆROPHYLLUM *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

Involucrum reflexum, concavum. *Petala* inflexo-cordata.
Fructus oblongus, lævis.

Raii Syn. Gen. 11. UMBELLIFERÆ HERBÆ.

CHÆROPHYLLUM *temulum*, caule scabro: geniculis tumidis. *Lin. Syst. Vegetab.* p. 288. *Spec. Plant.* p. 370. *Fl. Suec.* n. 258.

MYRRHIS foliis hirsutis, laciniis obtusis, caule geniculato. *Haller hist.* n. 750.

CHÆROPHYLLUM *fylvestre*. *Bauh. Pin.* 152.

CEREFOLIUM *fylvestre*. *Ger. emac.* 1038. *Park.* 915.

ANTHRISCUS *Plinii* quibusdam, femine longo *Cicutariæ* aut *Chærophylly*. *I. B. III.* 2. 70. *Raii Syn.* p. 207. *Wild Chervil.* *Hudson Fl. Angl. ed.* 2. p. 125. *Lightfoot Fl. Scot.* p. 167.

RADIX biennis, subramosa, albida.

CAULIS bipedalis et ultra, erectus, ramosus, teres, solidus, ad genicula fragiles, aut penitus atropurpureus, aut maculis atropurpureis adspersus, brevissimis pilis vestitus, scabriusculus, geniculis tumidis et manifeste striatis.

FOLIA radicalia et ramea ex petiolo vaginante orta, hirsutula, mollia, flaccida, duplicato-pinnata, pinnis subovatis, obtusis et lobato-incisis.

UMBELLÆ florentes erectæ, aut in latus parum inclinatæ, antea valde nutantes.

UMBELLA *universalis* componitur ex radiis numero variis, a quinque ad duodecim, exterioribus longioribus, *partialis* radii numero fere duplicantur.

INVOLUCRUM *universale* plerumque nullum, *partiale* constat foliolis plus minus senis, lanceolatis, acutis, reflexis.

COROLLA *universalis* subuniformis, flosculis disci raro nisi in sero florentibus abortientes; *propria* petalis quinque, albis, inflexo-cordatis, exterioribus paulo majoribus, *fig. 1. aut.*

STAMINA: FILAMENTA quinque alba: ANTHERÆ albidæ, *fig. 2.*

PISTILLUM: GERMEN inferum; STYLI duo reflexi; STIGMATA obtusa, *fig. 3.*

SEMINA oblonga, glabra, fusca, acuta, intus concava, extus obsolete et obtuse quinque sulcata, angulis pallentibus, *fig. 4.*

ROOT biennial, somewhat branched, and whitish.

STALK two feet or more in height, upright, branched, round, solid, brittle at the joints, either wholly of a dark purple, or spotted with the same colour, covered with very short hairs, and roughish to the touch, the joints swelled and obviously striated.

LEAVES next the root and those of the branches furnished with a foot-stalk which has a sheath at bottom, slightly hirsute, soft, flaccid, doubly pinnated, the pinnæ somewhat ovate, obtuse, and cut into lobes.

UMBELS when in flower upright, or inclined a little to one side, when young drooping very much.

UMBEL: the *universal* one is composed of rays which vary in number from five to twelve, the outermost longest, the *partial* umbel has almost twice as many.

INVOLUCRUM: the *general* involucre is for the most part wanting, the *partial* one consists of six leaves, more or less, which are lanceolate, pointed, and turned back.

COROLLA: the *universal* corolla somewhat uniform, the florets of the disk rarely abortive, unless in those which flower late, each *individual* composed of five white petals, which, having the tip bent inward, become heart-shaped, the outermost ones rather largest, *fig. 1. magn.*

STAMINA: five white FILAMENTS; ANTHERÆ whitish, *fig. 2.*

PISTILLUM: GERMEN beneath the flower; STYLES two, reflexed; STIGMATA blunt, *fig. 3.*

SEEDS oblong, smooth, brown, pointed, on the inside hollow, on the outside faintly and bluntly marked with five grooves, the angles paler, *fig. 4.*

The *Chærophyllum temulum* is nearly as common a plant as the *fylvestre*, flowers a month or six weeks later, and is more confined to sheltered situations; it delights to grow under hedges, but is rarely met with in open pastures.

The roughness, deep purple colour, and swelled joints of the stalk, readily distinguish it not only from the *fylvestre*, but from our other umbelliferous plants; the stalk is also frequently spotted with purple, and hence the ignorant, who often distinguish the Hemlock by that character alone, may be led to mistake it for that plant; we may remark also, that the umbels, when young, droop remarkably.

Why LINNÆUS should give it the name of *temulum*, unless from the last-mentioned circumstance, we know not: HALLER, who read almost every book on Botany and Medicine, is silent as to its effects.

The seeds afford the best distinction of the genus *Chærophyllum*, the *general involucre* being with us for the most part wanting, both in this species and the *fylvestre*.







Sambucus Racemosa.

SAMBUCUS EBULUS. DWARF ELDER.

SAMBUCUS *Lin. Gen. Pl.* PENTANDRIA TRIGYNIA.

Cal. 5-partitus. *Cor.* 5-fida. *Bacca.* 3-sperma.

Raii Syn. Gen. ARBORES ET FRUTICES.

SAMBUCUS *Ebulus* cymis tripartitis, stipulis foliaceis, caule herbaceo. *Lin. Syst. Veget.* p. 244.
Sp. Pl. p. 385. *Fl. Suecic.* n. 266.

SAMBUCUS herbacea; floribus umbellatis. *Haller. hist.* n. 671.

SAMBUCUS *Ebulus.* *Scopoli Fl. Carn.* n. 371.

SAMBUCUS humilis feu Ebulus. *Baub. Pin.* 456.

EBULUS five Sambucus humilis. *Ger. emac.* 1426. *Parkins.* 209. *Raii Syn.* 461. Dwarf-Elder, Walwort, or Danewort.

Hudson. Fl. Angl. ed. 2. p. 130.

Lightfoot. Fl. Scot. p. 171.

RADIX repens, vix eradicanda.

CAULIS orgyalis, herbaceus, teretiusculus, glaber, undique striato-fulcatus, subgeniculatus: geniculis purpureis, superne ramosus, ramis oppositis, erectis.

FOLIA opposita, pinnata, quadrijuga, feu sexjuga, cum impari, stipulata feu exstipulata, foliolis ovato-lanceolatis, basi inæqualibus, ferratis, venosis, supra glabris, subtus pubescenti-scabris, pallidioribus, inferioribus sæpe lobato-incisis.

STIPULÆ quaternæ, petiolatæ, subcordatæ, ferratæ, superioribus sæpe recurvatis.

CORYMBUS terminalis, tripartitus, ramis subnudis, exterioribus teretiusculis, intermedio compresso; compositus e cymis pluribus pedunculatis, nudis; floribus pedicellatis.

CALYX: PERIANTHIUM monophyllum, superum, quinquedentatum, dentibus ovato-acutis, erectis, purpureis. *fig. 1.*

COROLLA monopetala, rotata, quinquepartita, laciniis ovato-acutis, concavis, reflexis, externe ad apicem purpurascentibus et rugosis. *fig. 2.*

STAMINA: FILAMENTA quinque, suberecta, teretiuscula, crassa, rugosa, alba, longitudine corollæ; ANTHERÆ primum rubicundæ, magnæ, didymæ, sibi invicem paululum remotæ, parallelæ, oblongæ, supra fulcatæ, demum nigricantes. *fig. 3.*

PISTILLUM: GERMEN inferum, subovatum, obsolete angulatum, glabrum; STYLUS nullus; STIGMATA tria, subreniformia, colorata, glutinosa. *fig. 4. 5.*

ROOT creeping, scarce to be eradicated.

STALK six feet high, herbaceous, roundish, smooth, channeled, joints somewhat enlarged, purplish, branched above, the branches opposite and upright.

LEAVES opposite, pinnated, having four or six pair of pinnæ with an odd one at the extremity, with or without stipulæ, the pinnæ or small leaves ovato-lanceolate, unequal at the base, ferrated, veiny, smooth above, downy with a slight roughness underneath, and whiter, the lowermost often cut into lobes.

STIPULÆ growing in fours, standing on foot-stalks, somewhat heart-shaped, ferrated, the uppermost often bent back.

CORYMBUS terminal, divided into three branches, which are somewhat naked, the outer ones roundish, the middle one flattened, composed of numerous cymæ, standing on partial foot-stalks, blossoms also furnished with foot-stalks:

CALYX: a PERIANTHIUM of one leaf, placed above the germen, having five teeth, which are short, broad, pointed, upright and purple. *fig. 1.*

COROLLA monopetalous, wheel-shaped, divided into five segments, which are ovate, pointed, hollow and turn'd back, externally at the tip purplish and wrinkled. *fig. 2.*

STAMINA: five FILAMENTS, nearly upright, roundish, thick, wrinkled, white, the length of the corolla; ANTHERÆ first reddish, large, double, at a little distance from each other, parallel, oblong, grooved above, lastly becoming of a blackish colour. *fig. 3.*

PISTILLUM: GERMEN placed below the corolla, somewhat ovate, faintly angular, and smooth; STYLE none, STIGMATA three, somewhat kidney-shaped, coloured, and glutinous. *fig. 4. 5.*

THE leaves, roots, and bark of the dwarf Elder have a nauseous, sharp, bitter taste, and a kind of acrid ungratefull smell; they are all strong cathartics, and as such are recommended in Dropsies, and other cases where medicines of that kind are indicated. The bark of the root is said to be the strongest; the leaves the weakest; but they are all too churlish medicines for general use: they sometimes evacuate violently upwards, almost always nauseate the stomach and occasion great uneasiness of the bowels: by boiling they become like the other drastics milder and more safe in their operation; the berries of this plant are likewise purgative, but less virulent than the other parts: a rob prepar'd from them may be given to the quantity of an ounce as a cathartic; and in smaller ones as an aperient and deobstruent in chronic disorders. In this last intention it is said by HALLER to be frequently used in Swisserland in the dose of a dram. *LEWIS's Disp. p. 137.*

In most Physic Gardens this plant is cultivated, but is rarely met with wild about London; I have observed it two places only, the one in a hedge which surrounds a part of Mr. BEAUFORT's Garden, Cupers-Bridge, Lambeth Marsh, the other in a Lane leading down to Upton, Essex, by the garden wall of the late Dr. FOTHERGILL.

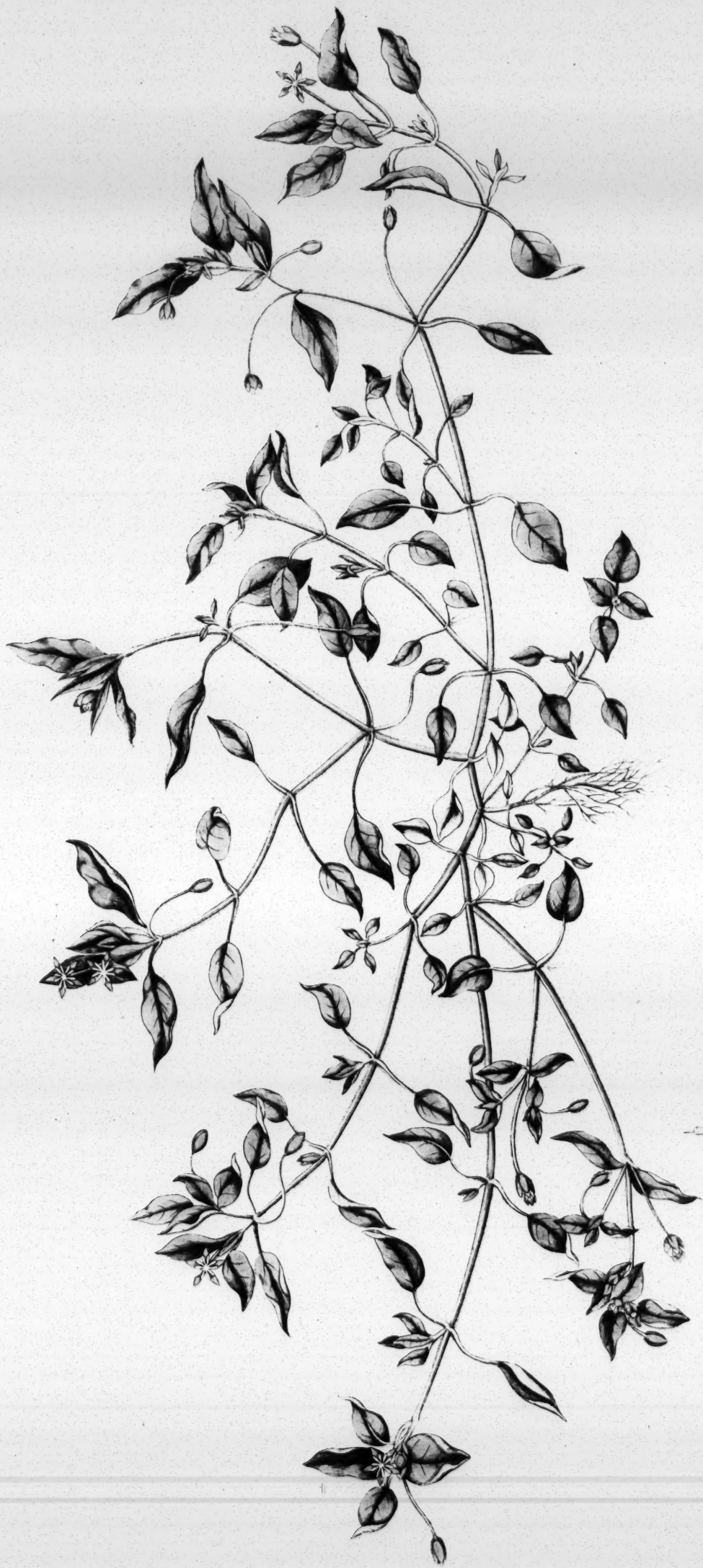
It differs from the common Elder in many respects, particularly in being herbaceous, and in having a root which creeps and is very troublesome in gardens, its leaves also are narrower with more numerous pinnæ attached to the mid-rib; the lower pinnæ of which are subject to a singular variation as is shewn in the figure.

Not less does it differ in its fructification as will appear from the description to which the reader is referred.

It flowers in June and July, and but rarely ripens its berries.







Stemodia media

ALSINE MEDIA.

COMMON CHICKWEED.

ALSINE *Linnaei Gen. Pl.* PENTANDRIA TRIGYNIA.

Cal. 5-phyllus. *Petala* 5-æqualia. *Caps.* 1-locularis, 3-valvis.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

ALSINE *media.* *Linnaei Syst. Vegetab.* p. 246. *Flora Suecic.* p. 37.

ALSINE *foliis petiolatis, ovato lanceolatis, petalis bipartitis.* *Haller hist. helv. n.* 880.

ALSINE *media.* *Scopoli Fl. Carniol. n.* 376.

ALSINE *media.* *Baubin pin. p.* 250.

ALSINE *media* feu minor. *Gerard emac.* 611. *Raii Syn. p.* 347, Common Chickweed. *Hudson Fl. Angl.* p. 113. *Oeder Fl. Dan.* 525, 438.

RADIX annua, fibrosa, capillacea.

CAULES plures, tenelli, teretes, subrepentes, ramosi, viticulis geniculati, *unifariam hirsuti*, apicibus sensim incrassatis.

FOLIA ovato-acuta, glabra, leviter ciliata; inferiora petiolata, superiora sessilia, connata.

PETIOLI ad basin latiora, hirsuti.

PEDUNCULI uniflori, axillares, hirsuti, peractâ florentia penduli, demum erecti.

CALYX: PERIANTHIUM pentaphyllum, foliolis lanceolatis, concavis, subcarinatis, marginatis, hirsutis, *Petalis longioribus*, fig. 1.

COROLLA: PETALA quinque, alba, nitida, ad basin fere partita, fig. 3, 4, 5.

STAMINA: FILAMENTA quinque, alba, inter Petala locata, Glandulâ ad basin instructa; ANTHERÆ subrotundæ, purpurascens, fig. 5, 6.

PISTILLUM: GERMEN subovatum; STYLI tres filiformes; STIGMATA simplicia, fig. 7.

PERICARPIUM: CAPSULA unilocularis, in valvulas sex dehiscentes, fig. 8.

SEMINA octo ad quindecim, subreniformia, aspera, e fusco-aurantiaca, pedicellis receptaculo connexa, fig. 9, 10, auct.

ROOT annual, fibrous, capillary.

STALKS numerous, tender, round, striking root here and there, branched, jointed and stringy, *hairy on one side only*, growing thicker towards the top.

LEAVES of a pointed oval shape, smooth, slightly hairy at the edges, the lowermost standing on foot-stalks, the uppermost sessile, connate.

FOOT-STALKS of the leaves broadest at bottom, and hairy.

FOOT-STALKS of the flowers, each sustaining one flower, proceeding from the bosoms of the leaves, hairy, when the flowering is over hanging down, finally becoming upright.

CALYX: a PERIANTHIUM of five leaves, each of which is lanceolate, concave, slightly keel-shaped at bottom, with a margin at the edge, hairy, and longer than the Petals, fig. 1.

COROLLA consists of five white shining PETALS, divided nearly to the base, fig. 3, 4, 5.

STAMINA: five white FILAMENTS, placed betwixt the Petals, furnished at bottom with a little Gland; ANTHERÆ roundish, of a purplish colour, fig. 5, 6.

PISTILLUM: GERMEN somewhat oval; STYLES three, filiform; STIGMATA simple, fig. 7.

SEED-VESSEL a CAPSULE of one cavity, splitting into six valves, fig. 8.

SEEDS from eight to fifteen, somewhat kidney-shaped, of a brownish orange colour, with a rough surface, connected to the receptacle by little foot-stalks, fig. 9, 10, magnified.

CHICKWEED being a plant which will grow in almost any situation, is consequently liable to assume many different appearances: when it grows in a rich soil, and shady situation, it will frequently become so large as to resemble the *Cerastium aquaticum*; while at other times, on a dry barren wall, its leaves and stalks will be so minute, as to make the young botanist take it for some species different from the common Chickweed: happily however it affords marks which if attended to, will readily distinguish it from the *Cerastium*, and every other plant: exclusive of its differing from the *Cerastium* in its generic character, its Petals are shorter than the leaves of its Calyx; while in the *Cerastium* they are longer; hence a considerable difference will be observable at first sight in the size of the flowers of these two plants: and from all other plants related to it, it may be distinguished by the singular appearance of its stalk, which is *alternately hairy on one side only*.

The most common number of its *Stamina* with us is five; yet I have often seen it with less, and sometimes with more; and this inconstancy in the number of its *Stamina* has been noticed by most botanic writers: GOUAN, in his *Flor. Monspel.* mentions from 3 to 10, with as many Pistilla; this circumstance with respect to the number of its *Stamina*, unfortunately separates it from other plants with which it appears to have by nature a very near relation: but as five *Stamina* appear to be its most constant number, LINNÆUS could not have placed it amongst those plants with ten *Stamina*, without doing violence to his system.

Of annual plants there are few more troublesome: it sows itself plentifully in the summer, and remains green throughout the winter, flowering during the whole time, if the weather be mild: but its chief season for flowering is in the spring. In rich garden mould, where the ground is highly cultivated, and in the fields about town, it does a deal of mischief: by the quickness of its growth and the great number of its shoots, it covers and chokes many young plants; hence it should be carefully weeded from dunghills.

The seeds are very beautiful, and have the greatest affinity to those of the *Cerastium aquaticum*.

When the flowers first open, the foot-stalks which support them are upright; as the flowers go off they hang down; and when the seeds become ripe, they again become erected.

LINNÆUS has observed that the flowers open from nine in the morning till noon, unless rain falls on the same day, in which case they do not open: from what little observations I have made on this plant, it is not subject to be affected precisely in the same manner here, having seen in the month of March, the blossoms continue rather widely expanded after repeated showers of rain.

It is considered as a wholesome food for Chicken and small Birds, whence, as RAY observes, it has obtained its name: boiled it resembles Spinach so exactly as scarcely to be distinguished from it, and is equally wholesome, being a plant which may be procured almost any where very early in the spring, it may be no bad substitute where Spinach or other greens are not to be had in plenty, and much preferable to Nettle-tops and other plants which the lower sort of people seek after in the spring with so much avidity. Swine are very fond of it, and prefer it to Turnep-tops. It is eaten by many Insects, particularly by the Caterpillar of the *Phalena Villica* or Cream spot Tyger Moth, and other hairy Caterpillars of the Tyger kind.

As a medicine it contains no active principle; but is frequently applied to hot, painful, and inflammatory swellings, either by itself, bruised, or mixed with poultices, with good success.







Linum usitatissimum

LINUM USITATISSIMUM. COMMON FLAX.

LINUM *Lin. Gen. Pl.* PENTANDRIA PENTAGYNIA.

Cal. 5-phyllus. *Petala* 5. *Capf.* 5-valvis, 10-locularis. *Sem.* solitaria.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

LINUM *usitatissimum* calycibus capsulisque mucronatis, petalis crenatis, foliis lanceolatis alternis, caule subfolitario. *Lin. Syst. Vegetab.* p. 249. *Sp. Pl.* p. 397.

LINUM *arvense.* *Bauh. Pin.* 214.

LINUM *sylvestre vulgatus.* *Park.* 1334. *Ger. emac.* 556. *Raii Syn.* p. 362. Manured Flax. *Hudson. Fl. Angl. ed. 2* p. 133. *Lightfoot Fl. Scot.* p. 173.

RADIX annua, simplex, fibrosa, pallide fusca.

CAULIS erectus, setquipedalis, bipedalis et ultra, teres, glaber, foliolus, superne tantum ramosus.

FOLIA lanceolata, sessilia, conferta, sparsa, suberecta, integerrima, lævia, trinervia.

FLORES majusculi, pulchre cærulei, paniculati.

PEDUNCULI teretes, glabri.

CALYX: PERIANTHIUM 5-phyllum, foliolis ovatis, acuminatis, carinatis, persistentibus, margine membranaceis, ad lentem ciliatis, *fig. 1.*

COROLLA: PETALA 5, cærulescentia, cuneifolia, decidua, venis saturatioribus picta, unguibus albis, apicibus suberosis, *fig. 2.*

STAMINA: FILAMENTA quinque, alba, subulata, basi dilatata. ANTHERÆ primo oblongæ, demum sagittatæ, *fig. 3.* incumbentes, cæruleæ, ad stylos inclinatæ et subcoadunatæ, *fig. 3. 4.*

PISTILLUM: GERMEN ovatum, nitidum. STYLI quinque, longitudine filamentorum, subclavati, cæruleiscentes, apice leviter cohærentes. STIGMATA simplicia, *fig. 5.*

PERICARPIUM: CAPSULA globosa, subangulata, mucronata, decemlocularis, quinquevalvis, *fig. 6.*

SEMINA in singulo loculamento solitaria, ovato-acuta, compressa, nitida, *fig. 7.*

ROOT annual, simple, fibrous, of a pale brown colour.

STALK upright, a foot and a half, two feet high or more, round, smooth, leafy, branched above only.

LEAVES lanceolate, sessile, growing thickly together, without any regular order, almost upright, perfectly entire.

FLOWERS large, of a beautiful blue colour, growing in a panicle.

FLOWER-STALKS round and smooth.

CALYX: a PERIANTHIUM of five leaves, which are ovate, pointed, keeled, permanent, the edge membranous, and if magnified fringed with hairs, *fig. 1.*

COROLLA: 5 blueish, wedge-shaped, deciduous PETALS, streaked with veins of a deeper colour, claws white, tips somewhat gnawed, *fig. 2.*

STAMINA: five white tapering FILAMENTS, dilated at the base. ANTHERÆ at first oblong, finally arrow-shaped, *fig. 3.* incumbent, of a blue colour, inclined to the styles, and somewhat united, *fig. 3. 4.*

PISTILLUM: GERMEN ovate, shining. STYLES five, the length of the filaments, somewhat club-shaped, blueish, slightly cohering. STIGMATA simple, *fig. 5.*

SEED-VESSEL: a globular, somewhat angular and pointed CAPSULE, having ten cavities, and five valves, *fig. 6.*

SEEDS one in each cavity, ovate, pointed, flat and glossy, *fig. 7.*

It may be doubted, perhaps, whether the common flax, found in any part of the kingdom, may not originally have been introduced from abroad; yet Mr. HUDSON speaks of it as a common plant in Dorsetshire and Devonshire, and entertains no idea of its being a doubtful native. However this may be, the few specimens of it which we find occasionally in corn fields and among rubbish, particularly in the neighbourhood of Battersea (for flax is not cultivated near London), have doubtless been introduced there with the produce of the garden or the corn field.

It flowers in June and July.

In the earliest record we have, flax is mentioned as a plant cultivated in Egypt (Exodus ch. ix. v. 31.); for which reason antiquaries have been surprised to find the vestments of mummies made of cotton. It is highly probable, however, that mankind made thread of cotton before the use of flax was discovered; for cotton is produced in a state ready for spinning, whereas flax requires a long process before it can be brought to that state.

In the simplicity of former times, when families in this island provided within themselves most of the necessities and conveniences of life, every garden supplied a proper quantity of hemp and flax; but the macerating or steeping, which was necessary to separate the thread by rotting the stalk, was in many places found to render the water so offensive and detrimental, that in the reign of Henry VIII. a law was made that "No person shall water any hemp or flax in any river, running water, stream, brook, or other common pond, where beasts are used to be watered, on pain of forfeiting, for every time so doing, twenty shillings. 33 Hen. VIII. c. 17. § 1. Might not this inconvenience be prevented, and the process much accelerated, by using boiling water, and a proper quantity of the ashes of any vegetable? *Vid.* below.

The wisdom of Parliament hath lately thought proper to encourage, by a premium, the growth of hemp and flax in this kingdom, certainly with a very laudable intention, as long as we procure these articles from countries where the balance of trade is against us; or, in other words, while we continue to pay for them in money, and not with our manufactures. The premium is four pence for every fourteen pounds of flax.

The ancients were of opinion, that flax impoverished land. "Urit enim lini campum feges." *Virg. G. I. v. 77.* But, while speculative and practical cultivators unfortunately continue to be such very distinct people, the rules which we find in books cannot be much depended on. However, it may be a caution to those who have not a plentiful command of manure not to engage too largely with this plant without proper trials. As flax will be new to

to most of the land in the kingdom, there is little doubt but that the produce will at first be large, and it is very desirable to introduce a new kind of grain into husbandry to extend the succession of crops.

*"For the vicissitudes of various grain
"Tend to preserve the vigour of the plain."*

Flax not only supplies us with cloathing, but its seeds, well known by the name of lin-seed, afford an oil of great use in painting, varnishing, &c. They are also used medicinally. Infusions of lin-seed, like other mucilaginous liquors, are used as emollients, increasants, and obtunders of acrimony, in heat of urine, stranguries, thin defluxions on the lungs, and other like disorders. A spoonful of the seeds, unbruised, is sufficient for a quart of water, larger proportions rendering the liquor disagreeably slimy. The mucilage obtained by inspissating the infusions or decoctions is an excellent addition for reducing disgusting powders into the form of an electuary, occasioning the compound to pass the fauces freely, without sticking or discovering its taste in the mouth. The expressed oil is supposed to be more of a healing and balsamic nature than the other oils of this class, and has been particularly recommended in coughs, spitting of blood, cholics, and constipations of the belly. The seeds in substance, or the matter remaining after the expression of the oil, are employed externally in emollient and maturing cataplasms. In some places these seeds in times of scarcity have supplied the place of grain; but appeared to be an unwholesome as well as an unpalatable food. *Tragus* relates, that those who fed on them in Zealand had the hypochondres in a short time distended, and the face and other parts swelled; and that not a few died of these complaints.

The following reflections communicated to me by a friend will, I flatter myself, not be unacceptable to my readers. Should practice justify the theory, I will venture to say, they will be golden reflections to the nation.

Some reflections relative to the watering of flax by a new method, so as to shorten labour, add to the strength of the flax, and give it a much finer colour, which would render the operation of bleaching safer and less tedious.

THOUGH the following reflections have for their object an improvement in the very essential article of watering of flax, yet I must advertise my reader, that they are only theory, and must depend entirely for their truth and justification upon future experiments, skilfully and judiciously made. Should repeated trials prove the advantage of the method proposed, we may venture to affirm, it would be an improvement that would increase the national income in the agricultural branch many thousand pounds annually, would add greatly to the perfection of the linen manufacture, and over and above would suppress a very disagreeable nuisance, which the present method of watering flax occasions during some part of the summer in every flax-growing country.

The intention of watering flax is, in my opinion, to make the boon more brittle or friable, and by soaking to dissolve that gluey kind of sap that makes the bark of plants and trees adhere, in a small degree, to the woody part. The bark is called the harle, and produces the flax; the useless woody part, which remains when the bark is separated, the boon. To effect this separation easily, the practice has long prevailed of soaking the flax in water to a certain degree of fermentation, and afterwards drying it. For this soaking some prefer rivulets that have a small current, and others stagnant water in ponds and lakes. In both these ways the water acts as in all other cases of infusion and maceration. After two or three weeks it extracts a great many juices of a very strong quality, which in ponds give the water an inky tinge, and offensive smell, and in rivulets mix in the stream, and kill the fish.

Nay, if this maceration is too long continued, the extracted and fermented sap will completely kill the flax itself: for if, instead of two or three weeks, the new flax were to lay soaking in the water four or five months, I presume it would be good for nothing but to be thrown upon the dunghill. Both harle and boon would in that time be completely rotted; yet the harle or flax, when entirely freed from this sap, and manufactured into linen, or into ropes, might be many months under water without being much damaged. As linen, it may be washed, steeped, and boiled in scalding water twenty times, without losing much of its strength: and as paper, it acquires a kind of incorruptibility.

It appears then essential, to the right management of new flax, to get rid of this pernicious vegetative sap, and to macerate the boon; but from the complaints made against both the methods of watering now in use, there is reason to think, that there is still great room for improvement in that article. In rivulets, the vegetative sap, as it is dissolved, is carried off by the current, to the destruction of the fish. This prevents the flax from being stained; but the operation is tedious, and, I have been told, often not complete, from the uncertainty of knowing the precise times when it is just enough, and not too much, or perhaps from neglect. In ponds, the inky tinge of the water often serves as a kind dye to the flax, which imbibes it so strongly, that double the labour in bleaching will hardly bring the linen made of such flax to an equality in whiteness with linen made of flax untinged. This seems to be equally unwise, as though we were to dye cotton black first, as a means to whiten it afterwards. These ponds besides become a great nuisance to the neighbourhood: the impregnated water is often of such a pernicious quality, that cattle, however thirsty, will not drink of it, and the effluvia of it may perhaps be nearly as infectious as it is offensive. If this effluvia is really attended with any contagious effects in our cold climates, a thing worth enquiring into, how much more pernicious must its effects have been in the hot climate of Egypt, a country early noted for its great cultivation of flax!

From these considerations I have been led to think, that the process of watering might be greatly improved and shortened by plunging the new flax, after it is rippled, into scalding water, which, in regard to extracting the vegetative sap, would do in five minutes more than cold water would do in a fortnight, or perhaps more than cold water could do at all, in respect to the clearing the plant of that sap. Rough almonds, when thrown into scalding water, are blanched in an instant; but perhaps a fortnight macerating those almonds in cold water would not make them part so easily with their skins, which are the same to them as the harle to the flax. Were tea leaves to be infused in cold water a fortnight, perhaps the tea produced by that infusion would not be so good to the taste, nor so strongly tinged to the eye, as what is effected by scalding water in five minutes. By the same analogy, I think, flax, or any small twig, would be made to part with its bark much easier and quicker, by being dipped in boiling water, than by being steeped in cold water. This reflection opens a door for a great variety of new experiments in regard to flax. I would therefore recommend to gentlemen cultivators and farmers to make repeated trials upon this new system, which would soon ascertain whether it ought to be adopted in practice or rejected. One thing, I think,

think, we may be certain of, that, if the Egyptians watered their flax in our common manner, they undoubtedly watered it in very warm water, from the great heat of their climate, which probably might make them neglect to think of water heated by any other means than that of the sun. A good general practice can only be established upon repeated trials; but, I am persuaded, many lose half the value of their crop by some of the present methods of watering it. Though one experiment may fail, another with a little variation may succeed, and the importance of the object desired to be obtained will justify a good degree of perseverance in the prosecution of the means. In this view, as the Chinese thread is said to be very strong, it would be worth while to be acquainted with the practice of that distant nation in regard to the rearing and manufacturing of flax, as well as with the methods used by the Flemings and the Dutch.

Boiling water perhaps might at once clear the new flax from many impurities, which, when not removed till spun into yarn, are then removed with difficulty, and loss of substance to the yarn. Why should not the longitudinal fibres of the flax, before they be spun into yarn, be made not only as fine but as clean as possible? Upon the new system proposed, the act of bleaching would begin immediately after the rippling of the flax; and a little done then might save much of what is generally done after the spinning and weaving. To spin dirty flax, with a view of cleaning it afterwards, appears to be the same impropriety as though we were to reserve part of the dressing given to leather till after it is made into a glove.

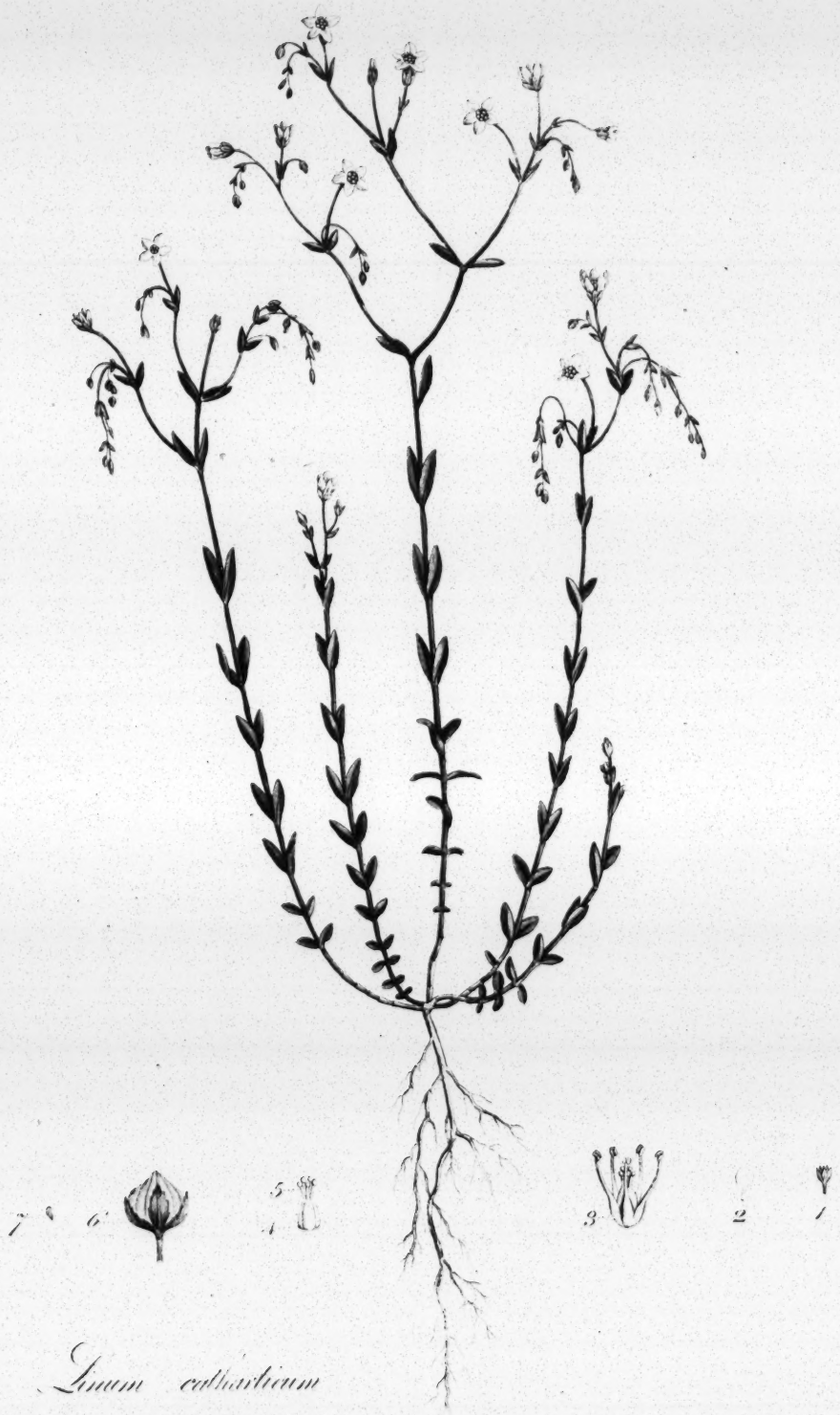
Should the plunging the flax into the boiling water not suffice to make the boon brittle enough, as I am inclined to think it would not, then the common watering might be added; but, in this case, probably half the time usually given to the watering would suffice, and the flax might then be laid in clear rivulets, without any apprehensions of its infecting the water and poisoning the fish, or of being discoloured itself; for the boiling water into which it had been previously put would have extracted all the poisonous vegetative sap, which, I presume, is what chiefly discolours the flax, or kills the fish.

On the supposition that boiling water, in the preparation of flax, may be found to be advantageous and profitable, I can recollect at present but one objection against it being generally adopted. Every flax-grower, it may be said, could not be expected to have conveniencies for boiling water sufficient for the purpose, the consumption of water would be great, and some additional expence would be incurred. In answer to this I shall only observe, that I presume any additional expence would be more than reimbursed by the better marketable price of the flax; for otherwise any new improvement, if it will not quit cost, must be dropped, were it even the searching after gold. In a large cauldron a great deal of flax might be dipped in the same water, and the consumption perhaps would not be more than a quart to each sheaf: even a large household pot would be capable of containing one sheaf after another; and I believe the whole objection would be obviated, were the practice to prevail with us, as in Flanders and Holland, that the flax-grower and the flax-dresser should be two distinct professions.

I shall conclude with recommending to those who are inclined to make experiments, not to be discouraged by the failure of one or two trials. Perhaps the flax, instead of being just plunged into the scalding water, ought to be kept in it five minutes; perhaps a quarter of an hour; perhaps a whole hour. Should five minutes, or a quarter of an hour, or an hour, not be sufficient to make the boon and harle easily separate, it might perhaps be found expedient to boil the flax for more than an hour; and such boiling, when in this state, might in return save several hours boiling in the article of bleaching. It is not, I think, at all probable, that the boiling of the flax with the boon in it would prejudice the harle; for, in the course of its future existence, it is made to be exposed twenty or forty times to this boiling trial, and, if not detrimental in the one case, it is to be presumed it would not be detrimental in the other. Perhaps after the boiling it would be proper to pile up the flax in one heap for a whole day, or for half a day, to occasion some fermentation, or perhaps, immediately after the boiling, it might be proper to wash it in cold water. The great object, when the flax is pulled, is to get the harle from the boon with as little loss and damage as possible; and if this is accomplished in a more complete manner than usual, considerable labour and expence will be saved in the future manufacturing of the flax. On this account, I think, much more would be gained than lost, were the two or three last inches of the roots of the flax to be chopped off, or clipped off, previous to its being either watered or boiled.

The following precaution is necessary to be observed, that the flax should never be spread out to dry at a season when it may be in danger of being exposed to the frost.





Linum catharticum

Linum cath.

LINUM CATHARTICUM. PURGING FLAX.

LINUM *Lin. Gen. Pl.* PENTANDRIA PENTAGYNIA *Cal.* 6 phyllus. *Pet* 5. *Caps* 5. valvis, 10 locularis. *Sem.* solitaria.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

LINUM *catharticum* foliis oppositis, ovato-lanceolatis, caule dichotomo, corollis acutis *Lin. Syst. Vegetab.* p. 250. *Sp. plant.* p. 401. *Fl. Suecic.* p. 100.

LINUM foliis conjugatis, ovatis, calycibus aristatis, patulis, lanceolatis. *Haller Hist. n.* 839.

LINUM *catharticum.* *Scopoli. Fl. Carn. n.* 389.

LINUM pratense flosculis exiguis. *Baubin. pin.* 214.

LINUM sylvestre catharticum. *Ger. emac.* 560. *Parkinson.* 1336. *Raii Syn.* p. 362. purging or wild Dwarf-Flax or Mill-mountain.

Lightfoot Fl. Scot. p. 174.

Hudson. Fl. Angl. ed. 2. p. 134.

RADIX annua, fibrosa.

CAULIS palmaris aut dodrantalis, erectus, teres, lævis, superne ramosus.

FOLIA opposita, elliptica, subrecta, lævia, integerrima, glauca, in summis ramis alterna, lanceolata.

FLORES albi, ante anthesin penduli.

CALYX: PERIANTHIUM pentaphyllum, persistens, foliolis lanceolatis, erectis, carinatis. *fig.* 1.

COROLLA pentapetala, petalis Calyce duplo longioribus, patentibus, ovatis, acutis, prope basin leviter coherentibus, trinerviis, unguibus flavis. *fig.* 2.

STAMINA: FILAMENTA quinque æqualia, subulata, basi latiora, subcoalescentia; ANTHERÆ subrotundæ, flavæ. *fig.* 3.

PISTILLUM: GERMEN subovatum, angulatum; STYLI quinque, longitudine staminum; STIGMATA rotunda, flava. *fig.* 4. 5.

PERICARPIUM: CAPSULA globosa, angulata, decemlocularis, quinquevalvis, Calyce tecta. *fig.* 6.

SEMINA solitaria, ovata, planiuscula, flava, nitida. *fig.* 7.

ROOT annual, and fibrous.

STALK from three to nine inches high, upright, round, smooth, branched at top.

LEAVES opposite, elliptical, nearly upright, smooth, perfectly entire, glaucous, on the tops of the branches alternate, and lanceolate.

FLOWERS white, before they blow pendulous.

CALYX: a PERIANTHIUM of five leaves and permanent, the leaves lanceolate, and upright, with a prominent midrib. *fig.* 1.

COROLLA composed of five petals, which are twice the length of the Calyx, spreading, oval and pointed, slightly uniting at the base, having three ribs and yellow claws. *fig.* 2.

STAMINA: five FILAMENTS of equal length, tapering, broadest and slightly uniting at bottom; ANTHERÆ roundish and yellow. *fig.* 3.

PISTILLUM: GERMEN angular; STYLES five, the length of the Stamina; STIGMATA roundish, and yellow. *fig.* 4. 5.

SEED-VESSEL: a round, angular CAPSULE, with ten cavities and five valves cover'd with the Calyx. *fig.* 6.

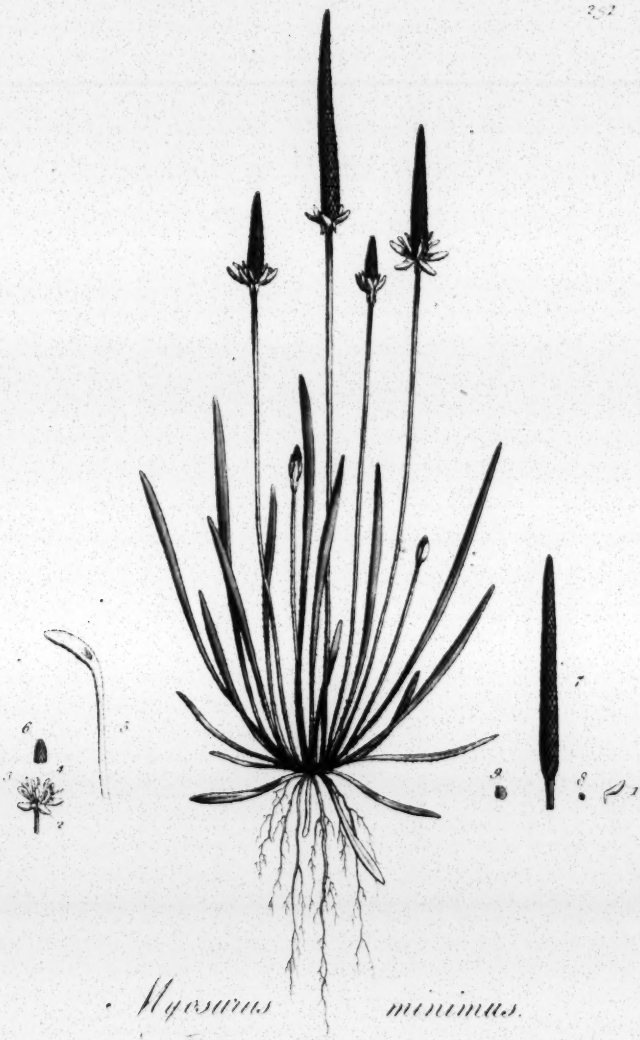
SEEDS single, oval, flattish, yellow and shining. *fig.* 7.

THIS small and delicate species of Flax is a very common plant throughout the kingdom on hilly situations particularly where the soil is chalky, it also sometimes found in Meadows.

It flowers in June, July and August.

An infusion in water or whey of a handful of the fresh leaves, or a dram of them in substance when dried, are said to purge without inconvenience. *Lewis Disp.* p. 168.





Hyosurus minimus.

MYOSURUS MINIMUS. MOUSE-TAIL.

MYOSURUS *Lin. Gen. Pl.* PENTANDRIA POLYGYNIA.

Cal. 5-phyllus, basi adnatus. *Nectaria* 5 subulata, petaliformia. *Sem.* numerosa.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

MYOSURUS *minimus. Lin. Syst. Vegetab.* p. 254. *Sp. Pl.* p. 407. *Fl. Suec.* n. 276.

MYOSURUS. *Haller. Hist.* n. 1159.

HOLOSTEO adfinis Cauda muris. *Bauh. Pin.* 190.

CAUDA MURINA. *Dod. Pempt.* 112.

RANUNCULUS gramineo folio, flore caudato, feminibus in capitulum spicatum congestis. *Tournefort Inst.* 293.

MYOSUROS. *Dillen. Nov. Gen.* p. 108. t. 4.

HOLOSTEUM Loniceri, Cauda muris vocatum. *Park.* 500.

CAUDA MURIS. *Gerard emac.* 426. *Raii Syn.* 251. Mouse-tail. *Lightfoot Fl. Scot.* p. 179. *Hudson Fl. Angl. ed.* 2. p. 130.

RADIX annua, fibrosa.

FOLIA, omnia radicalia, viginti circiter in plantâ mediâ magnitudinis, erecta, longitudine inæquali, linearia, superne latiora, compressa, utrinque obsolete canaliculata, glabra, subcarnosa, obtusa, e flavo-viridia, basi rubicunda.

SCAPI quatuor, quinque, aut plures, uniflori, erecti, bipollicares et ultra, foliis longiores, teretes, superne paulo crassiores, glabri.

CALYX: PERIANTHIUM pentaphyllum, foliolis oblongis, obtusis, concavis, herbaceis, patentibus. *Unguibus* postice elongatis, appressis, acuminatis. *fig.* 1, 2.

COROLLA: PETALA quinque, calyce breviora, minutissima, flavescentia, unguiculata, limbo patente, basi subtubulosa. *fig.* 3. auct. 5.

STAMINA: FILAMENTA quinque, vel plura, longitudine fere calycis, receptaculo inserta, filiformia, alba, erecta. ANTHERÆ oblongæ, lutescentes. *fig.* 4.

PISTILLUM: GERMINA numerosa, receptaculo in formam conico-oblongam insidentia. STYLI nulli. STIGMATA minima, simplicia. *fig.* 6.

PERICARPIUM nullum. Receptaculum longissimum, styliforme, feminibus imbricatum dispositum. *fig.* 7.

SEMINA numerosa, compressa, mucronata. *fig.* 8, 9.

ROOT annual and fibrous.

LEAVES, all of them radical, about twenty in a plant of a middling size, upright, of unequal length, linear, broadest at top, and flattened, faintly channelled on each side, smooth, somewhat fleshy, blunt, of a yellowish green colour, and reddish at the base.

FLOWERING-STEMS four, five, or more, each supporting one flower, upright, two inches or more in length, longer than the leaves, round, smooth, and a little thickest at the top.

CALYX: a PERIANTHIUM of five leaves, the leaves oblong, obtuse, hollow, herbaceous, spreading. *Claws* lengthened out behind, pressed to the flowering stem, and tapering to a point. *fig.* 1, 2.

COROLLA: five PETALS, shorter than the calyx, very minute, of a yellowish colour, clawed, the limb spreading, somewhat tubular at its base. *fig.* 3. magn. 5.

STAMINA: FILAMENTS five or more, almost the length of the calyx, fixed to the receptacle, thread-shaped, white, upright. ANTHERÆ oblong and yellowish. *fig.* 4.

PISTILLUM: GERMINA numerous, sitting on a receptacle, of an oblong, conic shape. STYLES none. STIGMATA very small and simple. *fig.* 6.

SEED-VESSEL none. Receptacle very long, style-shaped, covered with seeds, laying one over another. *fig.* 7.

SEEDS numerous, flat, and pointed. *fig.* 8, 9.

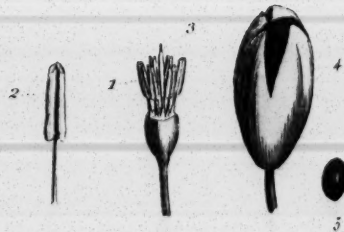
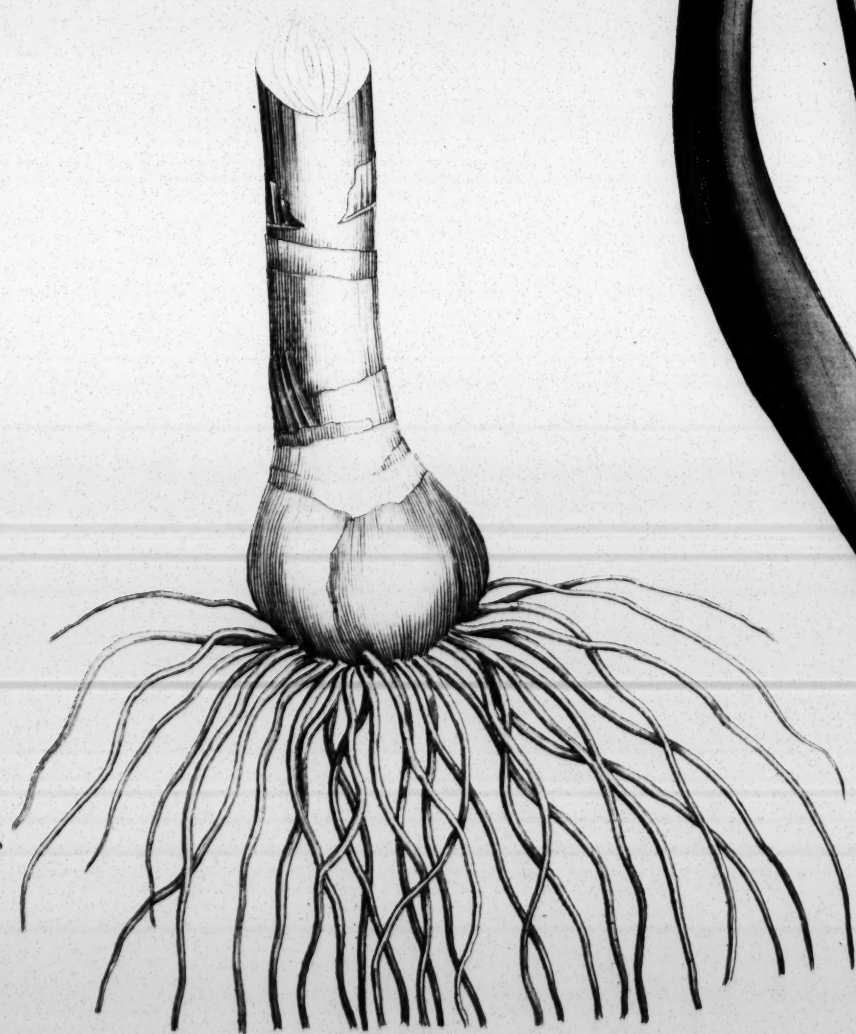
Some of the early Botanists gave to this plant the name of *Mouse-tail*, more from the general appearance of the plant than any particular attention to generic character. *TOURNEFORT* afterwards arranged it with the *Ranunculi*, *DILLENIUS*, not satisfied with such arrangement, made a distinct genus of it; which has been adopted by *LINNÆUS*.

The structure of the whole fructification is singular, and deserving the attention of the young Botanist; in particular, he should be careful to distinguish the Corolla from the Stamina.

This delicate little annual grows in corn and clover-fields, and by path-sides, especially where water has been apt to stagnate. It is found about *Islington*, *Paddington*, and *Pancras*; but with more certainty in the fields about *Dulwich*, especially on the right-hand-side of *Lordship-lane*, near *Dulwich Wood*.

It flowers in *May* and *June*, and ripens its seed in *July* and *August*.





Leucojum aestivum.

LEUCOJUM ÆSTIVUM.

SUMMER SNOWFLAKE.

LEUCOJUM *Lin. Gen. Pl.* HEXANDRIA MONOGYNIA.

Cor. campaniformis, 6-partita, apicibus incrassata. *Stigma* simplex.

Raii Syn. Gen. 26. HERBÆ RADICE BULBOSA PRÆDITÆ.

LEUCOJUM *æstivum* spatha multiflora, stylo clavato. *Lin. Syst. Vegetab.* p. 316. *Sp. Pl.* p. 414. *Jacquin Fl. Austr.* t. 203. v. 4.

LEUCOJUM *æstivum.* *Scopoli Fl. Carn.* n. 393.

LEUCOJUM bulbosum majus f multiflorum. *Bauh. Pin.* 55.

LEUCOJUM bulbosum ferotinum majus 1. *Clus. hist.* 1. p. 170.

LEUCOION bulbosum polyanthemum. *Dodon. Stirp hist.* p. 230. The great late flowering Bulbous Violet. *Park. Parad.* p. 110.

RADIX: *Bulbus* magnitudine nucis castaneæ, sub-ovatus, extus pallide fuscus, intus albus, tunicatus, lamellis plurimis, tenuibus, dense compactis.

FOLIA plurima, fessipedalia, erecta, sublinearia, saturate viridia, unciam fere lata, obtusa, superne plana, inferne leviter carinata, carina obtusa, exteriora breviora.

SCAPUS foliis paulo altior, multiflorus, fistulosus, subcompressus, anceps, subtortuosus, uno latere nonnunquam obtuso, altero acuto.

PEDUNCULI plerumque quinque ex eadem spatha, uniflori, angulati, longitudine inæquales.

FLORES albi, penduli, secundi, vix odori.

COROLLA campaniformi-patens, Petala sex, ovata, alba, intus striata, basi minime cohærentia, apicibus crassiusculis, strictioribus, macula viridi insignitis.

STAMINA: FILAMENTA sex, alba, filiformia: ANTHERÆ oblongæ, subquadrangulares, erectæ, luteæ, apice poris duobus dehiscentes, fig. 1, 2.

PISTILLUM: GERMEN subovatum, inferum: STYLUS albus, flaminibus paulo longior, inferne attenuatus, superne virescens; STIGMA breve, setaceum, erectum, acutum, fig. 3.

PERICARPIUM: CAPSULA subpyriformis, membranacea, trilocularis, trivalvis, fig. 4.

SEMINA plura, majuscula, subrotunda, atra, nitentia, fig. 5.

ROOT: a *Bulb* the size of a chestnut, somewhat ovate, externally of a pale brown colour, internally white, coated, the coats numerous, thin, and closely compacted.

LEAVES numerous, about a foot and a half in length, upright, nearly linear, of a deep green colour, almost an inch in breadth, obtuse, above flat, beneath slightly keeled, the keel obtuse, the lowermost leaves shortest.

STALK a little higher than the leaves, supporting many flowers, hollow, slightly flattened, two-edged, a little twisted, one side sometimes obtuse, the other acute.

FLOWER-STALKS for the most part five proceeding from the same sheath, each supporting a single flower, angular, and of unequal lengths.

FLOWERS white, pendulous, growing all one way, with little scent.

COROLLA somewhat bell-shaped, spreading, Petals six, ovate, white, finely grooved within side, not at all uniting at bottom, tips thickish, a little puckered, and marked with a green spot.

STAMINA six white, thread-shaped FILAMENTS: ANTHERÆ oblong, somewhat quadrangular, upright, yellow, each cell open at top, fig. 1, 2.

PISTILLUM GERMEN somewhat ovate, beneath; STYLE white, a little longer than the flamina, tapering downwards, above greenish; STIGMA like a small, short, upright, pointed bristle, fig. 3.

SEED-VESSEL: a CAPSULE somewhat pear-shaped, membranous, having three cavities and three valves, fig. 4.

SEEDS several, somewhat large, nearly round, black, and glossy, fig. 5.

Flowers about the middle of May.

Is found *undoubtedly wild*, betwixt *Greenwich* and *Woolwich*, about half a mile below the former, close by the Thames side, just above high water mark, growing (where no garden, in all probability, could ever have existed) with *Arundo Phragmites*, *Caltha palustris*, *Oenanthe crocata*, and *Angelica sylvestris*: Prof. JACQUIN, who figures it in the *Flora Austriaca*, and SCOPOLI, in his *Flora Carniolica*, describe it as growing in similar situations; their words are, *crescit in pratis udis et sub palustribus*. It has also been found in the *Isle of Dogs*, which is the opposite shore.

How so ornamental a plant, growing in so public a place, could have escaped the prying eyes of the many Botanists who have resided in London for such a length of time, seems strange: for my own part, I am perfectly satisfied of its being a native of our island, and have no doubt but it will be found in many other parts of it.

The figure we have given, was drawn on the spot above described, where it grows more luxuriantly than we usually see it in gardens; the reason of which is, that in gardens it seldom has a soil or situation sufficiently moist.

The older Botanists, and even TOURNEFORT, united it with the Snowdrop; and in our gardens it is generally known by the name of the *great Summer Snowdrop*; but as it differs very essentially in its fructification from the *Galanthus*, we have thought it necessary to give it the new English name of *Snowflake*, to correspond in some degree with the Linnæan generic name *Leucojum*.







Fritillaria Meleagris.

FRITILLARIA MELEAGRIS.

COMMON FRITILLARY.

FRITILLARIA *Lin. Gen. Pl. Hexandria Monogynia.*

Cor. 6. petala, campanulata, supra ungues cavitate nectarifera. *Stam.* longitudine corollæ.

Raii. Syn. Gen. 26. *HERBÆ RADICE BULBOSA PRÆDITÆ.*

FRITILLARIA *Meleagris* foliis omnibus alternis, caule unifloro. *Lin. Syst. Vegetab. p.* 269. *Sp. Pl.* p. 436. *Fl. Suecic. n.* 283.

FRITILLARIA caule paucifloro foliis caulinis gramineis alternis. *Haller. hist. n.* 1235.

FRITILLARIA *Meleagris. Scopoli Fl. Carn. n.* 405.

FRITILLARIA præcox purpurea variegata. *Bauh. pin.* 64.

FRITILLARIA vulgaris. *Parkinson. Parad.* 40.

FRITILLARIA variegata. *Gerard. emac.* 149. *Raii. hist. p.* 1106. *Hudson. Fl. Angl. ed. 2. p.* 144.

RADIX: Bulbus magnitudine nucis avellanæ, solidus, albus, subrotundus, in plures separabilis, bulbo precedentis anni, marcido, rugoso in thecâ quasi inclusus.

CAULIS spithameus et altior, erectus, teres, simplex, lævis, glaucus, haud infrequenter purpurascens.

FOLIA caulina quatuor, aut quinque, alterna, semiamplexicaulia, sublinearia, inferne rotundata, superne concava, subtortuosa, glauca.

FLOS in summitate caulis unicus, magnus, pendulus, primum ovato-pyramidalis, tum campanulatus.

CALYX nullus.

COROLLA: Petala sex, ovato-oblonga, æqualia, albo et purpureo pulchre tessellata, basi gibbosa. *fig. 1.*

NECTARIUM: fovea sublinearis, virescens, prope basin cujusvis petali unde gibbi externi. *fig. 1.*

STAMINA: FILAMENTA sex, subulata, lævia, albida, germine duplo longiora; ANTHERÆ oblongæ, subcompressæ, quadrifurcatæ, mucrone virecente instructæ, demisso polline duplo breviores; POLLEN flavum. *fig. 2. 3.*

PISTILLUM: GERMEN trigonum, viride; STYLUS teres, pubescens, superne paululum incrassatus, trifidus, laciniis teretibus, divergentibus, interne et externe ad lentem canaliculatis; STIGMATA simplicia, villosa. *fig. 4. 5.*

ROOT: a bulb about the size of a hazel nut, solid, white, roundish, divisible into several, inclosed by the withered, wrinkly bulb of the preceding year as in a case.

STALK from half a foot to a foot in height, upright, round, simple, glaucous, and not unfrequently purplish.

LEAVES of the stalk about four or five in number, alternate, half embracing the stalk, somewhat linear, round on the under and hollow on the upper side, somewhat twisted and glaucous.

FLOWER: a single blossom on the top of the stalk, large, pendulous, first somewhat pyramidal, and afterwards bell-shaped.

CALYX wanting.

COROLLA: six PETALS, of an oblong ovate shape, equal, beautifully checquer'd with purple and white, and gibbous at the base. *fig. 1.*

NECTARY a narrow cavity of a greenish colour, near the base of each petal, whence the external protuberances. *fig. 1.*

STAMINA: six FILAMENTS, tapering, smooth, whitish, twice the length of the germen; ANTHERÆ oblong, flattish, with four grooves, and a greenish point at the top of each, becoming shorter by one half on the shedding of the POLLEN, which is of a yellow colour. *fig. 2. 3.*

PISTILLUM: GERMEN scarce manifestly three corner'd, of a green colour; STYLE round, downy, a little thicken'd above, divided into three segments, which are round, diverging, and mark'd both internally and externally with a groove, visible with a magnifier; STIGMATA simple, villous. *fig. 4. 5.*

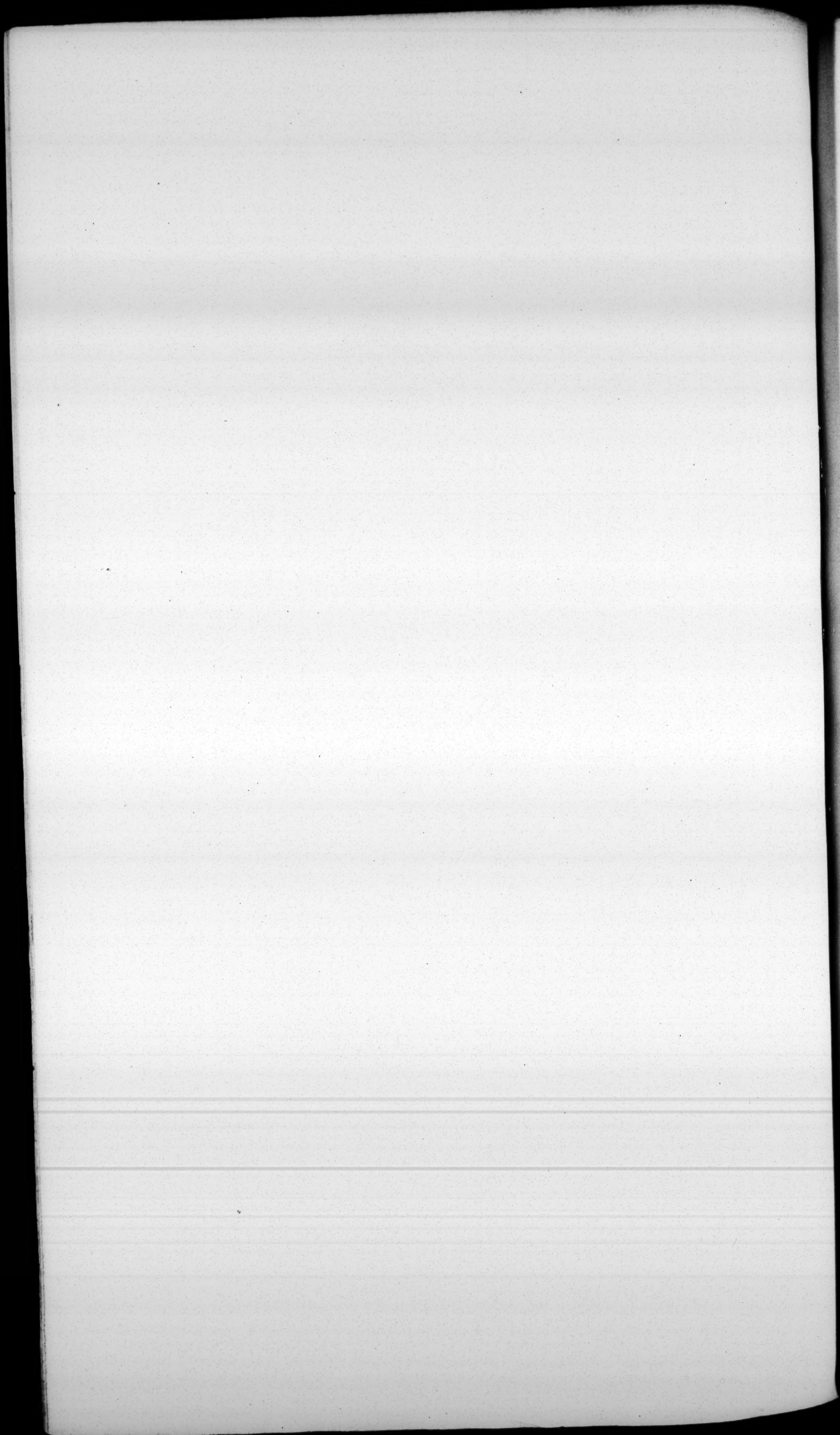
THE *Fritillaria Meleagris* is one of those plants which have been discovered to be indigenous to this country, since the time of Mr. RAY; Mr. BLACKSTONE is I believe the first who mentions it as growing in *Marvle Fields* near *Rislip Common Middlesex*, plentifully, and in which place it had been observed in his time for near sixty years; Mr. HUDSON describes it as growing in the Meadows betwixt *Mortlake* and *Kew*, also near *Endfield*; Mr. CULLUM a very accurate and ingenious Botanist at *Bury St. Edmunds*, has sent me plants which he found plentifully in a wild state near that place, and this spring I received information that it was found wild in a wood belonging to Mrs. WILSON, of *Bromley in Kent*.

With these several authorities we may, I think with propriety, conclude that it is a real native of this Island; it is found in similar situations abroad, in *sylvis et palustribus*, vid. JACQUIN *Fl. Austr. V. 5. Ap. p.* 45.

The blossoms before they are fully expanded, bear some resemblance to a snake's head, whence they are called by the country people in some places *Snake's Heads*, also checquer'd *Daffodil* and *Tulip*.

If the season be mild they flower in the beginning of April, and are out of bloom in a short time.

It is only regarded as an ornamental plant, and as such has long been cultivated in gardens, in which many beautiful varieties are to be met with.







HYACINTHUS NON SCRIPTUS. ENGLISH HYACINTH.

HYACINTHUS *Linnaei Gen. Pl. HEXANDRIA MONOGYNIA.*

Cor. campanulata: pori 3 melliferi germinis.

Raii Syn. Gen. 26. HERBÆ RADICE BULBOSA PRÆDITÆ.

HYACINTHUS *non scriptus* corollis campanulatis, sexpartitis, apice revolutis. *Lin. Syst. Veget. p. 276.*

HYACINTHUS oblongo flore cœruleus major. *Baubin Pin. 43.*

HYACINTHUS anglicus. *Gerard. emac. 111.*

HYACINTHUS anglicus belgicus vel hispanicus. *Parkinson. Parad. 122. Raii Syn. p. 373, English Hyacinth, or Hare-bells.*

HYACINTHUS *non scriptus*, Hyacinth. *Dioscoridis. Dod. Ludg.*

Hudson. Fl. Angl. 123 ed. 2. p. 141. Lightfoot. Fl. Scot. p. 183.

RADIX: bulbus subrotundus, magnitudine nucis myristicæ, candidus, succo viscido repletus, ex ima parte plurimas fibrillas albas dimittens.

SCAPUS nudus, semipedalis aut pedalis, erectus, teres, lævis, solidus.

FOLIA quatuor, sex, interdum plura, scapo duplo breviora, semunciam lata, carinata, concava, lævia, nitida.

FLORES octo ad duodecem; sæpe plures, odorati, cœrulei aut violacei, rarius carnei aut albi, spicati, secundi, nutantes.

BRACTEÆ binæ, suberectæ, lanceolatæ, fig. 1.

COROLLA subcylindracea, sexpartita, laciniis revolutis, fig. 2, 3.

STAMINA: FILAMENTA sex, tria longiora tubum corollæ æquantia, inferne corollæ adnata, superne libera, setacea, albida: ANTHERÆ erectæ, incumbentes, subsagittatæ, flavescentes, fig. 4.

PISTILLUM: GERMEN conicum, angulato-fulcatum, albidum: STYLUS corollæ brevior, apice violaceus: STIGMA obtusum, villosum, fig. 5.

PERICARPIUM: CAPSULA triquetra, trilocularis, trivalvis, valvis ovatis, mucronatis, fig. 6.

SEMINA plurima, violacea, nitida, subrotunda, fig. 7.

ROOT a roundish bulb, the size of a nutmeg, of a white colour, and full of a viscid juice, sending down from the bottom numerous whitish fibres.

STALK naked, from half a foot to a foot in height, upright, round, smooth, and solid.

LEAVES four, six, sometimes more, twice as short as the stalk, about half an inch broad, keeled, hollow, smooth, and shining.

FLOWERS from eight to twelve, often more, sweet smelling, of a blue or violet colour, seldom flesh coloured or white, growing in a spike, all one way, and hanging down.

FLORAL-LEAVES two to each flower, lanceolate, and nearly upright, fig. 1.

COROLLA almost cylindrical, divided into six segments, the tips of which turn back, fig. 2, 3.

STAMINA: six FILAMENTS, the three longest of which equal the tube of the corolla, below attached to the corolla, above free from it, tapering, and whitish: ANTHERÆ upright, incumbent, somewhat arrow-shaped, of a yellowish colour, fig. 4.

PISTILLUM: GERMEN conical, angular and grooved, of a whitish colour: STYLE shorter than the corolla, at top of a blueish colour: STIGMA blunt and villous, fig. 5.

SEED-VESSEL: a three-cornered CAPSULE, of three cavities and three valves, the valves oval, and terminating in a short point, fig. 6.

SEEDS numerous, of a fine blue colour, and roundish shape, with a polished surface, fig. 7.

THE *Hyacinth* is considered by the Dutch Florists, as the first of flowers, and as such ranks in their catalogues; in one of which, viz. that of Messrs. VOORHELM and SCHNEEVOGT, of *Haerlem*, for the year 1778, the *Gloria Solis* is marked at a 1000 guilders, eleven of which make one pound sterling.

The species which is the object of so much care and cultivation, and from whence such numerous and beautiful varieties are produced, is not our English *Hyacinth*, but the *Hyacinthus orientalis* of LINNÆUS: nevertheless, the present species is often to be met with in gardens, though in a state not much improved, being generally single, and retaining its character of drooping flowers, by which character it is obviously distinguished from a plant very similar to it, which is much more common in gardens, and flowers at the same time; a plant overlooked by LINNÆUS; but named by Mr. BANKS *Scilla campanulata*.

Our meadows, woods, and hedge-rows, are beautifully decorated with the blossoms of this plant in the spring months. Its seeds are not ripened till the end of the year; and those, on being sown, did not vegetate till the second year.

The term of *non scriptus* was applied to this plant by some of the earliest botanists, as may be seen in *Baubin's Pinax*, and *Ray's Hist. Plant.* and implies, that the flowers were not marked with any kind of character, which the *Hyacinth* of the antients is supposed to have been, *vid. Baub. Pin. p. 47. and Raii. Hist. p. 1155.*

The great uncertainty in which the antients have left us, by their vague and imperfect descriptions, appears in a strong light, by what can be collected from their writings concerning the HYACINTH FLOWER. Since the revival of letters, commentators and botanists, have taken great pains to ascertain the plant which the antient poets and naturalists called by this name; but with what success, may be easily gathered, when we find them severally fixing upon flowers of such very different appearances as the Martagon, Larkspur, and Iris, for the true *Hyacinth*.

The *Hyacinthine hair* of the ancients, has also engaged the attention of the inquisitive, succeeding poets copying the expression from HOMER, who describes *Ulysses* thus, in POPE or BROOME's translation :

“ Back from his brows a length of hair unfurls,
“ His hyacinthine locks descend in wavy curls.
“ As by some artist, to whom Vulcan gives
“ His skill divine, a breathing statue lives ;
“ By Pallas taught, he frames the wond'rous mould,
“ And o'er the silver pours the fusile gold ;
“ So Pallas his heroic frame improves
“ With heav'nly bloom, and like a god he moves.”

This passage is thus imitated by MILTON, in his description of the person of *Adam*.

—“ His fair large front and eye sublime declar'd
“ Absolute rule ; and hyacinthine locks
“ Round from his parted forelock manly hung
“ Clustering, but not beneath his shoulders broad.”

It is surprising that all the commentators should agree, in supposing HOMER means *black hair* by his allusion to the *Hyacinth*, when he elsewhere in the *Odyssey*, describes *Ulysses* with *yellow or golden hair* : “ *Ανθας δ' εκ κεφαλῆς ολεσσω τριχας,*” which corresponds with the simile in the above mentioned quotation, where the poet compares the hair flowing on his hero's shoulders, to *gold* inlaid on *silver*. But perhaps HOMER did not intend to express any colour by alluding to the *Hyacinth* : this line in the original, “ *Ουλας ηκε κομας υακινθινο ανθει ομοιας,*” may be literally translated thus :

“ She let down his hair curled like a *Hyacinth flower*.”

The *Hyacinthus comosus*, and its variety the *Hyacinthus monstrosus*, or *feathered Hyacinth*, bear a strong resemblance to *curled hair*, and are natives of the warmer parts of Europe.

A desire to point out the connection between botany and polite literature, has occasionally induced us to venture on hints and remarks of this kind, which the learned reader will, we hope, look on with an indulgent eye, and remember that our attempts, such as they are, add little to the bulk, and nothing to the expence, of the work.





SCILLA AUTUMNALIS. AUTUMNAL SQUIL.

SCILLA. Linn. Gen. Pl. HEXANDRIA MONOGYNIA.

Cor. 6-petala, patens, decidua. Filamenta filiformia.

Raii Syn. Gen. 26. HERBÆ RADICE BULBOSA PRÆDITÆ.

SCILLA *autumnalis* foliis filiformibus linearibus, floribus corymbosis, pedunculis nudis adscendentibus longitudine floris. Linn. Syst. Vegetab. ed. 14. Murr. p. 329. Sp. Pl. 443.

HYACINTHUS stellaris autumnalis minor. Baub. Pin. p. 47. et major ejusd. p. 46.

HYACINTHUS autumnalis major et minor. Clus. Hist. 1. p. 185. fig. 1, 2. Magn. Bot. Monsp. p. 134.

HYACINTHUS autumnalis. Winter Hyacinth.—autumnalis major. Great Winter Hyacinth. Ger. Herb. p. 98. f. 3, 4. emac. 110. fig. 1, 2.

HYACINTHUS autumnalis minor. The lesser Autumn Jacinth. Park. Parad. p. 132.

RADIX bulbis subrotundus, albidus, tunicatus, sapore subdulci, mucilaginosus, fibrillis albidis.	ROOT a roundish bulb, of a whitish colour, coated, of a sweetish taste and mucilaginous, the fibres whitish.
FOLIA plurima, radicalia, linearia, scapo breviora, glabra, interne canaliculata, externe convexa, striata, recurva, obtusiuscula.	LEAVES numerous, from the root, linear, shorter than the scapus, smooth, internally concave, externally convex and striated, bent back, somewhat blunt at the points.
SCAPUS subtriuncialis, erectus, teres, striato-angulosus, ad lentem villosus, nudus, inferne ex albivirescens, superne purpurascens.	SCAPUS about three inches high, upright, round, between scored and angular, villous if magnified, naked, below of a whitish green colour, above purplish.
FLORES 5—12 racemosi, e purpureo-cæruleiscentes.	FLOWERS from 5 to 12, growing in a racemus, of a blueish purple colour.
PEDUNCULI adscendentes, longitudine floris, ebracteati.	PEDUNCLES ascending, the length of the flower, without a bractæa.
COROLLA: PETALA sex, ovata, quorum tria paulo angustiora, obtusiuscula, apice callosa, e viridi fusca, fig. 1.	COROLLA: six PETALS, ovate, three of which are a little narrower than the rest, callous and of a greenish brown colour at the tips, fig. 1.
STAMINA: FILAMENTA 6, purpurascens, lata, subulata; ANTHERÆ subcordatæ, magnæ, primo saturate purpureæ, emisso polline nigricantes, fig. 2.	STAMINA: six FILAMENTS, of a purplish colour, broad, tapering, ANTHERÆ somewhat heart-shaped, large, at first of a deep purple colour, on shedding of the pollen blackish, fig. 2.
PISTILLUM: GERMEN subovatum, cæruleum, lineis sex albidis impressis notatum; STYLUS trigonus, trifurcatus, longitudine flaminum; STIGMA simplex, fig. 3.	PISTILLUM: GERMEN somewhat ovate, blueish, marked with six impressed white lines; STYLE three-cornered, three-grooved, the length of the stamina; STIGMA simple, fig. 3.
PERICARPIUM: CAPSULA subrotunda, trivalvis, valvis ovatis, concavis, dissepimento per medium divisis, maturato semine patentibus, fig. 4.	SEED-VESSEL: a roundish CAPSULE of three valves, the valves ovate, concave, divided by a partition running through the middle, expanding wide when the seed is ripe, fig. 4.
SEMINA sex, duo singulam valvam implentia, majuscula, nigricantia, nitidula, trigona, latere exteriore convexo, duobus interioribus planis, fig. 5.	SEEDS six, two filling each valve, rather large, blackish, shining, three-cornered, the outer side convex, the two inner ones flat, fig. 5.

Most of the old writers who treat of the *Scilla autumnalis*, describe two kinds, a *major* and a *minor*; but as these distinctions are founded chiefly on the size of the plant, and which depends on accidental circumstances, they are not deserving of much attention. GERARD was not aware of its being a British native. PARKINSON informs us, that he found it growing on a bank by the Thames side, at the hither end of Chelsea; and he notices a variety of it with white flowers.

In Mr. RAY's Synopsis it is described to grow on Blackheath, on certain parts of which it may still be found in abundance; and, in the same work, it is said to be found plentifully on St. Vincent's-Rock, near Bristol; there also it still exists in great profusion, as I am assured by Dr. FORD, my much valued friend, who gave me this autumn many plants which he had gathered there, the bulbs of which were in general much larger than those which grow about London: it is found also near Ditton, on Moulsey-Hurst, over against Hampton-Court, and not many years since was observed sparingly on Kew-Green.

It usually grows in pastures where the soil is a light and not very fertile loam; in its wild state it rarely exceeds three inches in height, cultivated it acquires twice its usual size, and from one bulb spring several stems: it begins to flower about the third week in August, and continues in blossom three weeks or a month. In most of the wild specimens the flowering stalks come up without the leaves, in some few the leaves accompany them, and afterwards acquiring their full size, appear above ground the greatest part of the year; but, being small and grassy, they do not readily lead to a discovery of the plant.

Such as are desirous of cultivating this little herald of autumn, may raise it from seeds, which it produces in plenty, and from which CLUSIUS informs us, that he obtained flowering plants the third year; it may be increased also, though slowly, by its bulbs, which should be planted in a light loamy soil, and placed in a dry part of the garden; the best mode is to plant the bulbs in a pot of suitable earth, and plunge them in the border, they will thus be secured from being lost (which, from their size, they would be apt to be) when the border is dug up; the same treatment is applicable to any other small hardy bulbs.







Convallaria majalis.

CONVALLARIA MAJALIS. LILY OF THE VALLEY.

CONVALLARIA *Lin. Gen. Pl. Hexandria Monogynia.*

Cor. sexfida. Bacca maculosa 3-locularis.

Raii Syn. Gen. 16. Herbæ Bacciferæ.

CONVALLARIA *majalis* scapo nudo. *Lin. Syst. Vegetab. p. 275. Spec. Plant. p. 451. Flor. Succ. n. 292.*

POLYGONATUM scapo diphylo, floribus spicatis, nutantibus, campaniformibus. *Haller. Hist. n. 1241.*

CONVALLARIA *majalis. Scopoli Fl. Carn. n. 418.*

LILIUM convallium album. *Baub. Pin. p. 304.*

LILIUM convallium. *Ger. Emac. p. 410. flore albo, Parkins. Parad. p. 349. Raii Syn. p. 264. Lily-convally or May Lily. Hudon. Fl. Angl. ed. 2. p. 146. Lightfoot, Fl. Scot. p. 182.*

RADIX perennis, fibrosa, fibris plurimis, teretibus, transversim rugosis, horizontaliter paulo infra terram in longum extensis, repentibus.

SQUAMÆ quatuor, vel quinque, subnervosæ, purpurascens, alternæ, basin foliorum et scapi obvestiunt et colligant.

FOLIA bina, petiolata, ovata, utrinque acuta, erecta, lævia, nervosa, altero plerumque majori, late viridia, petiolis teretibus, exteriori punctis rubris adperso, tubuloso ad recipiendum interiorem solidum.

SCAPUS lateralis, longitudine foliorum, erectus, nudus lævis, semicylindricus.

BRACTÆA lanceolata, membranacea, sub singulo pedunculo, pedunculo brevior.

FLORES sex, five octo, racemosi, nutantes, albi seu lutescentes, odorati.

PEDUNCULI uniflori, teretes, filiformes.

CALYX nullus.

COROLLA monopetala, globofo-campanulata. *Limb. sexfidus, laciniis obtusiusculis, reflexis, fig. 1.*

STAMINA: FILAMENTA sex, subulata, petalo inserta, corolla breviora. ANTHERÆ oblongæ, erectæ, biloculares, flavæ, longitudine filamentorum, *fig. 2.*

PISTILLUM: GERMEN subrotundum, viride. STYLUS filiformis, staminibus longior. STIGMA obtusum, trigonum, *fig. 3.*

PERICARPIUM: BACCA globofo, majuscula, rubra, trilocularis, polysperma, *fig. 4.*

SEMINA quinque et ultra majuscula, lutescentia, hinc convexa, inde plana seu angulata, *fig. 5, 6.*

ROOT perennial, fibrous, fibres numerous, round, transversely wrinkled, extending horizontally just below the surface of the earth, and creeping to a considerable distance.

SCALES four or five slightly ribbed, purplish, alternate scales surround and bind together the base of the leaves and stalk.

LEAVES growing two together, standing on foot-stalks, pointed at each end, upright, smooth ribbed, one generally larger than the other, of a bright green colour, foot-stalks round, the outermost dotted with red, and tubular to receive the inner one which is solid.

STALK lateral, the length of the leaves, upright, naked, smooth, semicylindrical.

FLORAL-LEAF lanceolate, membranous, under each flower-stalk, shorter than the flower-stalk.

FLOWERS six or eight, growing in a racemus, hanging down, white or yellowish, and sweet-scented.

FLOWER-STALKS one flowered, round, and filiform.

CALYX wanting.

COROLLA monopetalous, roundish, bell-shaped. The *Limb* divided into six obtuse reflexed segments, *fig. 1.*

STAMINA: six FILAMENTS tapering, inserted into the petal, and shorter than the corolla. ANTHERÆ oblong, upright, bilocular, yellow, the length of the filaments, *fig. 2.*

PISTILLUM: GERMEN roundish, green. STYLE filiform, longer than the stamens. STIGMA obtuse, and three-cornered, *fig. 3.*

SEED-VESEL a round, largish, red BERRY, having three cavities, and containing many seeds, *fig. 4.*

SEEDS five and more, largish, yellowish, convex on one side, and flat or angular on the other, *fig. 5, 6.*

LINNÆUS, in his *Flora Lapponica*, p. 80. gives his reasons at large for uniting in one genus the *Lilium convallium*, the *Polygonatum*, and *Unifolium*, and for adopting the name *Convallaria*.

The Lily of the Valley claims our notice as an ornamental and a medicinal plant. As an ornamental one, few are held in greater estimation; indeed, few are the flowers which can boast such delicacy with such fragrance; fortunately it is most easy of cultivation, requiring only to be placed in the shady part of a garden, and to be transplanted now and then, when the roots are too much matted together to produce flowers freely. It bears forcing admirably in pots, and hence the curious may have it in blossom at least two months in the year.

There is a variety of it with reddish flowers and double blossoms. In its wild state it is seldom seen in berry; but produces them readily when cultivated. Like many of those plants which are eagerly sought after, it is now become rather scarce in the neighbourhood of London. In Mr. RAY's time it grew plentifully on Hampstead-Heath, but is now sparingly found there. In Lord Mansfield's wood, near the Spaniard, it may be met with in greater abundance; nor is it uncommon in the woods about Dulwich. It flowers in May and June.

The flowers readily impart their fragrance, as well as a penetrating bitterish taste, both to watery and spirituous menstrua. Their odorous matter, like that of the white Lily, is very volatile, being totally dissipated in exsiccation, and elevated in distillation; nor does the distilled spirit turn milky on the admixture of water, as those spirits do which are impregnated with actual oil. The pungency and bitterness, on the other hand, reside in a fixed matter, which remains entire both in the watery and spirituous extracts, and which in this concentrated state approaches, as CARTHEUSER observes, to hepatic Aloes.

It is principally from the volatile parts of these flowers, that medicinal virtues have been expected in nervous and catarrhus disorders; but probably their fixt parts also, which have no smell, have perhaps the greatest share in their efficacy. The flowers, dried and powdered, and thus divested of their odoriferous principle, prove strongly sternutatory. Watery or spirituous extracts made from them, given in doses of a scruple or half a dram, act as gentle stimulating aperients and laxatives, and seem to partake of the purgative virtue as well as of the bitterness of Aloes.

The roots possess a greater degree of bitterness, and a similar purgative quality. *Lewis's Mat. Med.*







Peplis Portula.

PEPLIS PORTULA. WATER PURSLANE.

PEPLIS *Lin. Gen. Pl.* HEXANDRIA MONOGYNIA.

Perianth. campanulatum: ore 12-fido. *Petala* 6, calyci inserta. *Caps.* 2-locularis.

Raii Syn. Gen. 25. HERBÆ HEXAPETALÆ ET POLYPETALÆ VASCULIFERÆ.

PEPLIS *Portula* floribus apetalis. *Lin. Syst. Vegetab.* p. 283. *Sp. Pl.* p. 474. *Fl. Suec.* n. 311.

PEPLIS petalis fenis, sæpissime apetala. *Haller. Hist.* n. 856.

ALSINE palustris minor serpyllifolia. *Baub. pin.* 120.

ANAGALLIS Serpyllifolia aquatica. *J. B. III.* p. 372.

GLAUX aquatica folio subrotundo. *Loesel.* p. 106. *ic.* 20.

GLAUX altera subrotundo folio. *Boccone t.* 84. *Vaillant. Bot. par.* t. 15. f. 5.

GLAUROIDES palustre portulacæ folio, purpureo flore. *Michel.* p. 21. t. 18.

PORTULA. *Dillen. Nov. Pl. Gen.* p. 133. t. 7.

ALSINE rotundifolia f. *Portulaca* aquatica. *Ger. em.* 614.

ALSINE aquatica minor folio oblongo f. *Portulaca* aquatica. *Park.* 1260. *Raii Syn.* p. 368. Water Purslane. *Hudson. Fl. Angl. ed.* p. 147. *Lightfoot Fl. Scot.* p. 187.

RADIX annua, fibrosa.

CAULIS palmaris et ultra, tetragonus, repens, ramosus, lævis, rubicundus, geniculatus.

FOLIA opposita, subrotunda, petiolata, integerrima, glabra, nervo medio rubicundo.

FLORES oppositi, axillares, sessiles, minimi.

CALYX: PERIANTHIUM monophyllum, campanulatum, persistens, maximum, ore duodecimfido, denticulis alternis minoribus, reflexis. *fig.* 1.

COROLLA: PETALA raro sex, ovata, minutissima, rosea, calycis fauci inserta. *fig.* 2.

STAMINA: FILAMENTA sex, subulata, brevia. ANTHERÆ subrotundæ. *fig.* 3.

PISTILLUM: GERMEN ovatum. STYLUS brevissimus. STIGMA orbiculatum. *fig.* 4.

PERICARPIUM: CAPSULA subrotunda, bilocularis, tenuissima, pellucida. *fig.* 5.

SEMINA plurima, minima, albida, angulata. *fig.* 6.

ROOT annual and fibrous.

STALK a hand's breadth or more in length, square, creeping, branched, smooth and red.

LEAVES opposite, roundish, standing on foot-stalks, perfectly entire, smooth and shining, the midrib reddish.

FLOWERS opposite, in the axæ of the leaves, sessile and very small.

CALYX: a PERIANTHIUM of one leaf, bell-shaped, permanent, very large (in proportion to the petals), the mouth cut into five segments, of which the alternate ones are least and turned back. *fig.* 1.

COROLLA: PETALS seldom so many as six, ovate, very small, rose-coloured, inserted into the mouth of the calyx. *fig.* 2.

STAMINA: six FILAMENTS, tapering and short. ANTHERÆ roundish. *fig.* 3.

PISTILLUM: GERMEN ovate. STYLE very short. STIGMA round. *fig.* 4.

SEED-VESSEL: a roundish CAPSULE of two cavities, extremely thin and pellucid. *fig.* 5.

SEEDS numerous, very minute, whitish and angular.

The numerous synonyms prefixed to the description of this plant shew in what a variety of lights it has been viewed by different Botanists. Those of early times called it *Alsine*, as they did almost every plant whose parts of fructification were small, and which bore the most distant similitude to Chick-weed.

MICHEL and DILLENIUS in their respective *Nova Genera* wrought much reformation in these minute plants; and if they did not arrive at the ultimatum of description and figure, they paved the way to it.

The *Peplis Portula* is a very common plant in pools of water that are apt to be dried up in the summer, particularly on heaths. It flowers from June to August. Its petals are very minute, and frequently fall short of their proper number.







Juncus pilosus.

JUNCUS PILOSUS. SMALL HAIRY WOOD-RUSH.

JUNCUS *Lin Gen. Pl.* HEXANDRIA MONOGYNIA.

Cal. 6-phyllus, *Cor.* o. *Capf.* 1-locularis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

JUNCUS *pilosus* foliis planis pilosis, corymbo ramoso. *Lin. Syst. Vegetab.* p. 280. *Sp. Pl.* 468. *Fl. Suec.* 308.

JUNCUS foliis planis, hirsutus, floribus umbellatis, solitariis, petiolatis, aristatis. *Haller hist.* n. 1325.

JUNCUS *pilosus.* *Scopoli Fl. Carn.* n. 435.

GRAMEN nemorosum hirsutum latifolium minus. *Bauhin pin.* 7.

GRAMEN nemorosum hirsutum. *Ger. emac.* 19. majus *Park.* 1184.

GRAMEN nemorosum hirsutum vulgare. *Raii Syn.* p. 416. Small hairy Wood-Rush. *Hudson. Fl. Angl.* p. 151. *Lightfoot. Fl. Scot.* p. 186.

RADIX perennis, fibrosa, fibris numerosis, fuscis, foliis brevibus acutis quoque instruitur, ita ut subrepens dici potest.

CULMI plures, ex eadem radice, spithamæ et ultra, suberecti, foliosi, superne nudi, simplices, læves, striati, teretes, tribus aut quatuor geniculis minime protuberantibus instructi.

FOLIA radicalia plurima, tres quatuorve uncias longa, lineas tres, tresque cum dimidiâ lata, ad basin paulo angustiora, parum concava, superne obscure plerumque virentia et lævia glabraque, inferne dilutius virentia et glabra, ad margines autem, raris et longis pilis villosa, densius autem hirsuta sunt versus eorum origines, sæpe rubentia, apice obtusiuscula et subtruncata, caulina plana.

FLORES paniculati, panicula diffusa.

PEDUNCULI inæquales, pauci simplices, plures proliferi, dichotomi et trichotomi, demum retro porrecti, omnes uniflori, flosculis intermediis sessilibus.

CALYX *Gluma* bivalvis, *fig. 1.* *Perianthium* hexaphyllum, foliolis oblongis, acuminatis, carinatis, concavis, ex purpureo fuscis, persistentibus, *fig. 2.* auct.

COROLLA nulla.

STAMINA: FILAMENTA sex, capillaria, brevissima, ANTHERÆ oblongæ, erectæ, flavæ, *fig. 3.*

PISTILLUM: GERMEN triquetrum, acuminatum; STYLUS brevis, filiformis; STIGMATA tria, longa, filiformia, villosa, *fig. 4.*

ROOT perennial, and fibrous, fibres numerous and brown, it is also furnished with short pointed shoots, so that it may be called somewhat creeping.

STALKS many from the same root, about a span in length, sometimes more, nearly upright, leafy, naked above, simple, smooth, striated, round, furnished with three or four joints, which do not protuberate.

LEAVES next the root numerous, three or four inches long, and three lines or three and a half broad, somewhat narrowest at the base, a little concave, above generally of a dull green colour, smooth and rather glossy, beneath of a paler green, and slightly glossy, at the edges especially, covered with a few long hairs, which are most numerous towards the base of the leaf, often of a reddish colour, a little blunt and as it were cut off at the point, the stalk leaves flat.

FLOWERS forming a spreading panicle.

FLOWER-STALKS of unequal lengths, a few of them simple, most of them proliferous, dichotomous or trichotomous, finally stretcht out backward, all of them supporting a single flower, the intermediate ones sessile.

CALYX: a *Glume* of two valves, *fig. 1.* a *Perianthium* of six leaves, which are oblong, pointed, keel'd, concave, of a purplish brown colour and permanent, *fig. 2.* magnified.

COROLLA wanting.

STAMINA: six FILAMENTS, capillary and very short; ANTHERÆ oblong, upright, and yellow, *fig. 3.*

PISTILLUM: GERMEN three-cornered, pointed; STYLE short, filiform: STIGMATA three, long, filiform, and villous, *fig. 4.*

The *Juncus pilosus*, *sylvaticus*, and *campestris*, are distinguished from the other species, by their grass-like hairy leaves; the first of these has some little affinity with the *campestris* already figured, but differs from it, not only in its place of growth, but in having its flowers stand singly, and not in clusters; while the *campestris* delights in exposed, the *pilosus* is found only in woods, and shady situations; and from this circumstance we may perhaps in some degree account for its flowering earlier than any of the others, for if the season be not very unfavourable, it will begin to flower in February, and is usually out of bloom the beginning of May.

We know of no use to which this species, or the *sylvaticus*, is applicable; nor yet from the places they inhabit, can they be considered in any degree noxious in Agriculture.





Juncus sylvaticus.

J. sylvaticus del. et sculp.

JUNCUS SYLVATICUS. GREAT HAIRY WOOD-RUSH.

JUNCUS *Lin. Gen. Pl.* HEXANDRIA MONOGYNIA.

Cal. 6-phyllus. *Cor.* 6. *Capf.* 1-locularis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

JUNCUS *sylvaticus* foliis planis pilosis, corymbo decomposito, floribus fasciculatis sessilibus. *Hudson Fl. Angl.* p. 151.

JUNCUS foliis planis hirsutis, floribus paniculatis, fasciculatis. *Haller hist.* n. 1324.

GRAMEN nemorosum hirsutum latifolium majus. *Scheuch. Agrost.* p. 317. *C. B. Pin.* 7.

GRAMEN nemorosum hirsutum latifolium maximum. *Raii Syn.* p. 416. The greatest broad-leaved hairy Wood-Grass.

GRAMEN luzulæ maximum. *J. B. II.* 493. *Lightfoot Fl. Scot.* p. 180.

Authors have contributed not a little to mislead students, by describing this species of *Juncus*, as uncommonly large and scarce, and it is probable that Mr. RAY would not have considered it as a species, had he not by accident met with some very luxuriant specimens of it; in certain situations it doubtless may be found very large, and tall, but it more usually occurs with a stalk a little more than a foot high; of some plants growing in my garden, close to each other, in a moist, but not very shady situation, the comparative height of the *Juncus campestris*, *pilosus*, and *sylvaticus*, was as follows, *campestris* 9 inches, *pilosus* 11, and *sylvaticus* 15; the account of its being a scarce plant is still more erroneous, as there is hardly a wood in the neighbourhood of London, nor as far as we have observed in any part of the kingdom, in which they do not grow plentifully together; they do so at least in Bishop's-Wood, Hampstead, which is near the spot where Mr. RAY describes his plant as growing.

By LINNÆUS this plant is considered as a variety only of the *pilosus*: Mr. HUDSON and Baron HALLER, examining it with more attention than LINNÆUS, make a distinct species of it, and give such a description of it as cannot fail to make it known.

To the characters given in their synonyms above quoted, we may add that the leaves are not only much broader, and more concave, but more sharply pointed than those of the *pilosus*, that it flowers three weeks or a month later, and that when the flowering is over, the flower-stalks of the *pilosus* are more reflexed or pendulous than those of the *sylvaticus*.

This species flowers in May, or earlier if the season be a mild one.







Juncus campestris

Linnaeus

JUNCUS CAMPESTRIS. HAIRY FIELD RUSH.

JUNCUS *Linnaei* Gen. Pl. HEXANDRIA MONOGYNIA.

Cal. 6-phyllus. Cor. o. Capsula 1-locularis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

JUNCUS *campestris* foliis planis subpilosis, spicis sessilibus pedunculatisque. *Lin. Syst. Vegetab.* p. 280. *Sp. Pl.* p. 468.

JUNCUS planifolius; spicis petiolatis, nutantibus; petalis aristatis. *Haller. hist.*

JUNCUS *campestris*. *Scopoli Fl. Carniol.* p. 258.

GRAMEN hirsutum capitulis Pfyllii. *Baubin. Pin.* 7.

GRAMEN exile hirsutum. *Gerard. emac.* 17.

GRAMEN nemorosum hirsutum minus angustifolium. *Parkinson.* 1185.

Raii Syn. p. 416, Small Hairy Wood-Grass.

Hudson. Fl. Angl. 132, ed. 2. p. 152.

Lightfoot Fl. Scot. 186.

RADIX perennis, crassitie pennæ coracis, sublignosa, fibris plurimis nigricantibus instructa, repens.

CULMUS simplex, palmaris, aut dodrantalis, erectus, foliosus, basi tumidus, teres, lævis, enodis.

FOLIA plana, pilosa, pilis e margine foliorum erumpentibus, acuta, apicibus sæpe rufis, membrana destituta, foliola duo erecta inæqualia spiculis subiecta culmum terminant.

SPICULÆ plerumque tres, subovatae, fig. 1. florescente plantâ erecta, pedicellis inæqualibus insidentes, inferiore subfessili.

PEDUNCULI filiformes, e vaginâ ciliatâ prodeuntes.

FLORES decem aut duodecem circiter in singula spicula, sessiles.

CALYX: squamulae plerumque quatuor, ovato-acutae, membranaceae, inæquales, foliolis calycinis multo breviores, singulum flosculum ambiunt, fig. 2.

CALYX proprius, hexaphyllus: foliolis lanceolato-acuminatis, patentibus, persistentibus, nitidis, carinatis, e fusco-purpureis, fig. 3.

COROLLA nulla.

STAMINA: FILAMENTA sex, subulata, brevissima: ANTHERÆ oblongae, calycem æquantes, flavæ, quadrifurcatae, bicuspidatae, fig. 4, 5, demisso polline tortuosae.

PISTILLUM: GERMEN viride, triquetrum, acuminatum: STYLUS brevis, filiformis: STIGMATA tria, longa, filiformia, flexuosa, villosa, fig. 6.

PERICARPIUM: CAPSULA tecta, triquetra, unilocularis, trivalvis, fig. 7, 8, 9.

SEMINA plerumque tria, subrotunda, olivacea, fig. 10, 11.

ROOT perennial, the size of a crow quill, somewhat woody, furnished with numerous blackish fibres, creeping.

STALK simple, from three to nine inches high, upright, leafy, somewhat enlarged at bottom, round, smooth, and without joints.

LEAVES flat, hairy, the hairs proceeding from the edges of the leaves, pointed, the tips often of a reddish brown colour, not furnished with any membrane: two small, upright, unequal leaves, placed under the spiculae, terminate the stalk.

SPICULÆ, generally three, somewhat oval, fig. 1, upright when the plant is in flower, sitting on uneven foot-stalks, the lowermost spicula nearly sessile.

FLOWER-STALKS thread-shaped, proceeding from a small sheath edged with hairs.

FLOWERS about ten or twelve in each spicula, sessile.

CALYX: most commonly four small scales, of an oval pointed shape, membranous and uneven, and much shorter than the leaves of the true Calyx, surround the base of each floret, fig. 2.

CALYX: the proper Calyx is composed of six leaves, spear-shaped, with a long point, spreading, permanent, shining, keeled, of a brownish purple colour, fig. 3.

COROLLA wanting.

STAMINA: six FILAMENTS, tapering, and very short: ANTHERÆ oblong, the length of the Calyx, yellow, with four grooves, terminating in two points, fig. 4, 5; on shedding the Pollen becoming twisted.

PISTILLUM: GERMEN green, three-cornered, pointed: STYLE short, thread-shaped: STIGMATA three, long, thread-shaped, crooked, and villos, fig. 6.

SEED-VESSEL: a CAPSULE covered by the Calyx, three-cornered, of one cavity and three valves, fig. 7, 8, 9.

SEEDS usually three, of a roundish shape, and olive colour, fig. 10, 11.

THE above description is taken from the *Juncus campestris* when growing in its most usual state in dry pastures; in such situations it has seldom more than three or four spiculae; in moister and richer soils, particularly on boggy ground, it will often have a much greater number: but though it varies in size and the number of its parts, it still continues very distinct from the *pilosus*, or *Hairy Wood Rush*.

It flowers in April and May, and ripens its seeds in June.

The hairs of this, and some of the other Junci, are of a very singular kind; a stranger to plants, would suppose that some animal had been robbed of its hair by rubbing on it.

The appearance of this plant indicates a dry, and consequently not very luxuriant pasturage.



Juncus campestris

Linnaeus

JUNCUS CAMPESTRIS. HAIRY FIELD RUSH.

JUNCUS *Linnaei* Gen. Pl. HEXANDRIA MONOGYNIA.

Cal. 6-phyllus. Cor. o. Capsula 1-locularis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

JUNCUS *campestris* foliis planis subpilosis, spicis sessilibus pedunculatisque. *Lin. Syst. Vegetab.* p. 280. *Sp. Pl.* p. 468.

JUNCUS planifolius; spicis petiolatis, nutantibus; petalis aristatis. *Haller. hist.*

JUNCUS *campestris*. *Scopoli Fl. Carniol.* p. 258.

GRAMEN hirsutum capitulis Pfyllii. *Bauhin. Pin.* 7.

GRAMEN exile hirsutum. *Gerard. emac.* 17.

GRAMEN nemorosum hirsutum minus angustifolium. *Parkinson.* 1185.

Raii Syn. p. 416, Small Hairy Wood-Grass.

Hudson. Fl. Angl. 132, ed. 2. p. 152.

Lightfoot Fl. Scot. 186.

RADIX perennis, crassitie pennæ coracis, sublignosa, fibris plurimis nigricantibus instructa, repens.

CULMUS simplex, palmaris, aut dodrantalis, erectus, foliosus, basi tumidus, teres, lævis, enodis.

FOLIA plana, pilosa, pilis e margine foliorum erumpentibus, acuta, apicibus sæpe rufis, membrana destituta, foliola duo erecta inæqualia spiculis subjecta culmum terminant.

SPICULÆ plerumque tres, subovatae, fig. 1. florescente plantâ erecta, pedicellis inæqualibus insidentes, inferiore subfessili.

PEDUNCULI filiformes, e vaginâ ciliatâ prodeuntes.

FLORES decem aut duodecem circiter in singula spicula, sessiles.

CALYX: squamulae plerumque quatuor, ovato-acutæ, membranaceæ, inæquales, foliolis calycinis multo breviores, singulum flosculum ambiunt, fig. 2.

CALYX proprius, hexaphyllus: foliolis lanceolato-acuminatis, patentibus, persistentibus, nitidis, carinatis, e fusco-purpureis, fig. 3.

COROLLA nulla.

STAMINA: FILAMENTA sex, subulata, brevissima: ANTHERÆ oblongæ, calycem æquantes, flavæ, quadrifurcatae, bicuspidatæ, fig. 4, 5, demisso polline tortuosæ.

PISTILLUM: GERMEN viride, triquetrum, acuminatum: STYLUS brevis, filiformis: STIGMATA tria, longa, filiformia, flexuosa, villosa, fig. 6.

PERICARPIUM: CAPSULA tecta, triquetra, unilocularis, trivalvis, fig. 7, 8, 9.

SEMINA plerumque tria, subrotunda, olivacea, fig. 10, 11.

ROOT perennial, the size of a crow quill, somewhat woody, furnished with numerous blackish fibres, creeping.

STALK simple, from three to nine inches high, upright, leafy, somewhat enlarged at bottom, round, smooth, and without joints.

LEAVES flat, hairy, the hairs proceeding from the edges of the leaves, pointed, the tips often of a reddish brown colour, not furnished with any membrane: two small, upright, unequal leaves, placed under the spiculae, terminate the stalk.

SPICULÆ, generally three, somewhat oval, fig. 1, upright when the plant is in flower, sitting on uneven foot-stalks, the lowermost spicula nearly sessile.

FLOWER-STALKS thread-shaped, proceeding from a small sheath edged with hairs.

FLOWERS about ten or twelve in each spicula, sessile.

CALYX: most commonly four small scales, of an oval pointed shape, membranous and uneven, and much shorter than the leaves of the true Calyx, surround the base of each floret, fig. 2.

CALYX: the proper Calyx is composed of six leaves, spear-shaped, with a long point, spreading, permanent, shining, keeled, of a brownish purple colour, fig. 3.

COROLLA wanting.

STAMINA: six FILAMENTS, tapering, and very short: ANTHERÆ oblong, the length of the Calyx, yellow, with four grooves, terminating in two points, fig. 4, 5; on shedding the Pollen becoming twisted.

PISTILLUM: GERMEN green, three-cornered, pointed: STYLE short, thread-shaped: STIGMATA three, long, thread-shaped, crooked, and villos, fig. 6.

SEED-VESSEL: a CAPSULE covered by the Calyx, three-cornered, of one cavity and three valves, fig. 7, 8, 9.

SEEDS usually three, of a roundish shape, and olive colour, fig. 10, 11.

THE above description is taken from the *Juncus campestris* when growing in its most usual state in dry pastures; in such situations it has seldom more than three or four spiculae; in moister and richer soils, particularly on boggy ground, it will often have a much greater number: but though it varies in size and the number of its parts, it still continues very distinct from the *pilosus*, or *Hairy Wood Rush*.

It flowers in April and May, and ripens its seeds in June.

The hairs of this, and some of the other Junci, are of a very singular kind; a stranger to plants, would suppose that some animal had been robbed of its hair by rubbing on it.

The appearance of this plant indicates a dry, and consequently not very luxuriant pasturage.







Ruiner obtusifolium

RUMEX OBTUSIFOLIUS. BROAD LEAVED DOCK.

RUMEX *Linnaei* Gen. Pl. HEXANDRIA TRIGYNIA.

Cal. 3 phyllus. Petala 3 conniventia. Sem. 1 triquetrum.

Raii Syn. Gen. 5. HERRÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

RUMEX *obtusifolius* floribus hermaphroditis, valvulis dentatis graniferis, foliis cordato-oblongis obtusis pubescentibus. *Lin. Syst. Vegetab.* p. 285. *Sp. Pl.* 478. *Fl. Suecic.* n. 315.

LAPATHUM foliis ovatis, circa petiolum emarginatis, floribus dense paniculatis, dentatis, verrucosis. *Haller. hist. Helv.* n. 1592.

LAPATHUM vulgare folio obtuso. *J. B.* II. 984.

LAPATHUM fylvestre, folio subrotundo. *Bauh.* p. 115.

LAPATHUM fylvestre, folio minus acuto. *Ger. emac.* 388.

LAPATHUM fylvestre vulgatus. *Park.* 1225.

Raii Syn. p. 141. The most common broad leaved wild Dock.

Hudson. *Fl. Angl. ed. 2.* p. 155. *Lightfoot Fl. Scot.* p. 189.

RADIX perennis, in terram alte et recte descendens, fusiformis, crassitie digiti intermedii, foris for-
dide fusca, intus flavescens, in junioribus sim-
plex, in annosis multiplex, ramosus.

CAULIS tripedalis, erectus, ad basin usque ramosus,
teres, laevis, superne scabriusculus, fulcatus,
solidus, geniculatus, geniculis stipulis obso-
letis, marcescentibus vestitis.

FOLIA radicalia, cordato ovata, petiolata, obtusiuscula,
subtus venosa, nervo medio saepius ruberrimo,
caulina acuta, subundulata.

PETIOLI subtus rotundati, superne plano-concavi.

RACEMI florum axillares, suberecti, nudiusculi.

CALYX: PERIANTHIUM triphyllum, foliolis lanceo-
lato-linearibus, concavis, margine membra-
naceis, corollâ brevioribus.

COROLLA: PETALA tria, ovata, obtusiuscula, pa-
tentia, margine membranacea.

STAMINA: FILAMENTA sex, brevissima, alba; AN-
THERÆ sublineares, flavæ, apice bifidæ.

PISTILLUM: GERMEN trigonum; STYLI tres, ca-
pillares, reflexi, inter rimas petalorum con-
niventium exserti; STIGMATA laciniata.

PERICARPIUM nullum: Corolla trivalvis, connivens,
includens semen; valvulis ovato-acutis, ve-
nosis, margine denticulatis, unica granifera.
fig. 1. 2. 3.

SEMEN unicum, triquetrum, fuscum.

ROOT perennial, running deeply and straightly into
the earth, tapering, the thickness of the
middle finger, on the outside of a dirty
brown colour, internally yellowish, in the
young ones simple, in the old ones divided
into many branches.

STALK three feet high, upright, branched down to
the bottom, round, smooth, upwards slightly
rough, grooved, solid and jointed, joints co-
vered with obsolete, withered stipulæ.

LEAVES next the root of an heart shaped oval form,
standing on footstalks, bluntish, veiny under-
neath, the middle generally very red, those
on the stalk pointed and somewhat waved.

LEAF-STALKS round underneath, above plano-con-
cave.

FLOWER-BRANCHES, proceeding from the axæ of
the leaves, nearly upright, and furnished
with but few leaves.

CALYX: a PERIANTHIUM of three leaves, which are
of a shape betwixt lanceolate and linear, hol-
low, membranous at the edges, and shorter
than the corolla.

COROLLA: three oval PETALS, bluntish, spreading,
membranous at the edges.

STAMINA: six Filaments, very short and white;
ANTHERÆ somewhat linear, yellow and
forked at top.

PISTILLUM: GERMEN three cornered, STYLES
three, very fine, turning back, and project-
ing from betwixt the closed petals.

SEED-VESSEL none: the Corolla, which is com-
posed of three valves, closes and contains
the seed; the valves are oval, pointed,
and veiny, toothed on the edge, one of them
bearing a granule. *fig. 1. 2. 3.*

SEED single, three cornered and brown. *fig. 4.*

OF all our English Docks, this perhaps may be said to be the most common, and considered as a weed the
most pernicious, being the largest and most spreading, except the Water Dock, and refused by cattle in general;
hence the Husbandman who wishes to see his grounds neat and clean has a rooted enmity to it, and for its des-
truction an instrument, called a Docking Iron, has been invented by some one more ingenious than the rest,
which is frequently made use of; the purpose of this instrument is to draw the plant up by the root, from an
idea, that if it was cut down ever so close, while any part of the root remained, it would grow again: but this
idea has perhaps been too hastily assumed, frequent mowing most certainly destroys it, and frequent spudding it is pre-
sumed would have the same effect, but unless it be done carefully, and at stated periods, little good is to be ex-
pected.

In all sorts of cultivated ground, in Farm Yards, Courts, by the sides of Ditches, and elsewhere, we find this
species most abundantly, it flowers at the latter end of June, and ripens its seed in July and August.

Our present plant is subject to as little variety as any of the Docks, its broad bottom leaves readily distin-
guish it, and these, though they may differ somewhat in size according as the soil is more or less luxuriant, vary
but little in their shape, in general the younger the plant the more obtuse are its radical leaves.







Rumex acutus.

RUMEX ACUTUS. SHARP-POINTED DOCK.

RUMEX *Lin. Gen.* HEXANDRIA TRIGYNIA.

Cal. 3 phyllus. *Petala* 3 conniventia. Semen triquetrum.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

RUMEX *acutus* floribus hermaphroditis; valvulis dentatis graniferis, foliis cordato oblongis acuminatis.
Lin. Syst. Veg. p. 285. *Sp. Pl.* p. 478 *Fl. Suecic.* n. 316.

LAPATHUM petiolo latefcente, foliis lanceolatis, calyce ferrato. *Haller. hist.* n. 1591.

LAPATHUM acutum. *Scopoli* p. 292.

LAPATHUM folio acuto plano. *B. pin.* 115.

LAPATHUM acutum. *Ger. emac.* 388.

LAPATHUM acutum seu Oxylapathum. *J. Bauh.* II. 983.

LAPATHUM acutum majus. *Park.* 1224. *Raii Syn.* p. 142. Sharp-pointed Dock.

Hudson. Fl. Angl. ed. 2. p. 155. *Lightfoot Fl. Scot.* p. 188.

RADIX perennis, crassitie digiti minimi aut major, in terram profunde penetrans nec facile extrahenda, simplex in junioribus, in adultis ramosa, foris e flavo fusca, cortice interne flavescente, medulla albida.

CAULIS bipedalis, ad tripedalem, crassitie pennæ anserinæ, teres, striatus, rubens, ramosus, superne flexuosus, rigidus, geniculis stipulis obsoletis tectis.

RAMI cauli similes, patentes, longiusculi, inferne foliosi.

FOLIA inferiora oblongo-ovata, acuta, basi subcordata, plana, longitudine uncias quinque, latitudine duas, margine crenulato-crispa, subtus fibris plurimis minute reticulata, caulina sæpius undulata, attamen multo minus quam in rumice crispo.

FLORES parvi, numerosi, circa ramulos semiverticillatim dispositi, idque alterne, penduli.

PEDUNCULI filiformes, ad basin geniculati.

CALYX: PERIANTHIUM triphyllum, foliolis minimis, subsetaceis, concavis, rigidulis, persistentibus.

COROLLA Stamina et Pistillum, cum nullam notam præbeant huic speciei peculiarem, ad valvulas semen maturam continentes præterimus, ob quibus certe et facile distinguitur.

VALVULÆ minimæ si ad valvulas aliorum Rumicum nostratum comparantur, calyce duplo longiores, oblongæ, obtusiusculæ, integerrimæ, unicâ idque exteriore semper granifera, reliquis plerumque nudis, ex apice granulæ per medium valvulæ decurrit linea prominula et utrinque venæ aliquot ope lentis solummodo distingui possint; Granulæ primum oblongæ, demum rotundæ, prominulæ, in umbrosis pallidæ, in apricis ruberrimæ.

SEMEN unicum, triquetrum, flavescens.

Fig. 1 Calyx. 2 Corolla. 3 Stamina. 4 Pistillum. 5 Valvulæ cum granulis immaturis. 6 Semen.

ROOT perennial, the thickness of the little finger, or larger, penetrating deeply into the earth, and not easily drawn out, in the young ones simple, in the full-grown ones branched, externally of a yellowish brown colour, the inside of the bark yellowish, the pith whitish.

STALK from two to three feet high, the thickness of a goose quill, round, striated, reddish, branched, on the upper part crooked, rigid, the joints covered with obsolete stipulæ.

BRANCHES like the stalk, spreading, longish, on the lower part leafy.

LEAVES at the bottom of the stalk of an oblong, oval shape, pointed, at the base somewhat heart-shaped, flat, about five inches in length and two in breadth, the edge notched, and somewhat curled, underneath finely reticulated with numerous fibres, those on the stalk usually waved, but much less so than in the curled dock.

FLOWERS small, numerous, disposed about the branches in half whirls, and that alternately, hanging down.

FLOWER-STALKS filiform, with a joint at the base. CALYX: a PERIANTHIUM composed of three leaves, which are very small, narrow, pointed, hollow, somewhat rigid and permanent.

COROLLA Stamina and Pistillum having nothing in them very peculiar, we pass on to the valves containing the ripe seed, which afford the principal marks characterizing this species.

VALVES very small if compared with the valves of our other Docks, twice the length of the calyx, oblong, bluntish, entire at the edge, one and that the outer one always bearing a granule, the others generally naked, from the top of the granule through the middle of the valve runs a prominent line, on each side of which, by the help of a glass only, may be discerned a few veins; Granules at first oblong, finally becoming round and prominent, in the shade pallid, in exposed situations very red.

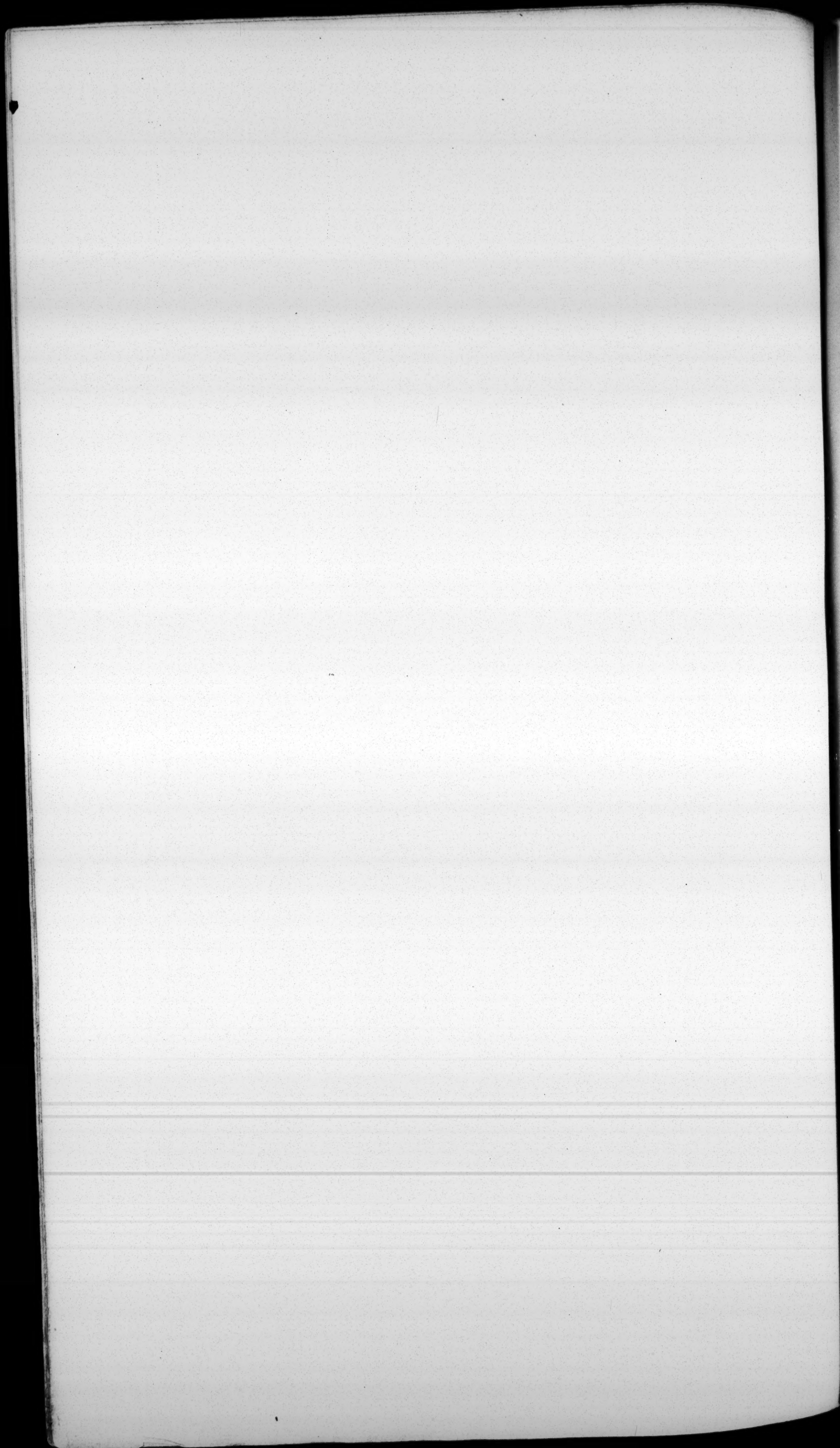
SEED single, three-cornered, and yellowish.

Fig. 1 The Calyx. 2 the Corolla. 3 the Stamina. 4 the Pistillum. 5 the Valves with the granules unripe. 6 the Seed.

The *Rumex acutus*, like the *Rumex maritimus*, is a plant by no means well understood, either by Botanists or Simplers, both of which in their turn mistake it for some other species; this I should not assert, had I not seen frequent instances of such mistakes: fortunately it has a character which need only to be pointed out to make this species as obvious as any plant in nature, and this is the smallness of its seed-valves, which are uniformly at least thrice as small as those of any of our other Docks; the species to which the *Rumex acutus* at first sight has the greatest resemblance, are the *crispus*, the *pulcher*, and the *maritimus*, the first of these is characterized by having its leaves very much curled, its seed valves almost round, entire and very large, so that they nearly hide the branches, in this the leaves are much less curled, the seed-valves, although entire at the edge, are altogether as small as in the *crispus* they are large, and instead of being roundish are of an oblong shape, the whole plant is more fine and delicate and the branches more spreading; from the *pulcher* and *maritimus* it is at once distinguished, by having the edges of its valves entire, which in those are toothed.

The Sharp-pointed Dock is not confined to any particular place of growth, it is found not only in woods, hedges, and hedges, but also by the sides of rivers and roads; in fields and meadows it is less frequent; Camberwell Grove is at present a good Habitat for it; it flowers in June and July. The *Rumex sanguineus* differs in no respect from the present plant, but in the colour of its veins, on this account I consider it merely as its variety.

It is the more necessary that the Dock here figured should be thus pointed out, as it is an officinal plant, and considered as usefull in the cure of scorbutic and cutaneous disorders, both exhibited internally, and applied externally in ointments, cataplasms, and fomentations.







RUMEX ACETOSELLA. SHEEP'S SORREL.

RUMEX *Lin. Gen. Pl. Hexandria Trigynia.*

Cal. 3-phyllus. *Petala* 3, conniventia. *Sem.* 1. triquetrum.

Raii Syn. Gen. 5. *Herbæ* flore imperfecto seu stamineo (vel apetalò potius).

RUMEX *Acetosella* floribus dioicis foliis lanceolato-hastatis. *Linn. Syst. Vegetab. p.* 286. *Sp. Pl.* 481.
Fl. Suec. n. 319.

LAPATHUM sexibus separatis, foliis sagittatis, hamis acutis recurvis. *Haller bist.* 1596.

LAPATHUM *Acetosella.* *Scopoli Fl. Carn. n.* 439.

ACETOSA arvensis lanceolata. *Bauhin. Pin. p.* 114.

OXALIS tenuifolia. *Ger. emac.* 397.

ACETOSA minor lanceolata. *Parkin. f.* 744.

LAPATHUM acetosum repens lanceolatum. *Raii Syn. p.* 143. Sheep's Sorrel. *Hudson Fl. Angl. p.* 156. *Lightfoot Fl. Scot. p.* 191.

RADIX perennis, sublignosa, repens, fusca.

CAULIS palmaris ad pedalem, erectus, lævis, striatus, subangulosus, ramosus.

FOLIA alterna, petiolata, inferiora lanceolato-hastata, hamis sæpius recurvis, in umbrosis subglauca, in apricis ut ut tota planta sanguinea, superiora lineari-lanceolata.

PETIOLUS longitudine folii, inferne striatus, superne canaliculatus, basi vaginans, vaginâ apice membranacea, albâ, lacerâ, sæpe reflexâ.

SPICÆ plurimæ, nudæ, subramosæ, sæpe nutantes.

FLORES masculi et feminei in distinctis plantis, minimi; *fig.* 1, 2. flos masculus auctus; *fig.* 3. femineus; *fig.* 4. semen magnitudine naturali; *fig.* 5. idem auct.

ROOT perennial, of a brown colour, somewhat woody, and creeping.

STALK from a hand's breadth to a foot in height, upright, smooth, striated, somewhat angular, branched.

LEAVES alternate, standing on foot-stalks, the lower ones lanceolate, and halbert-shaped, the lobes forming the halbert, usually bent upwards, in shady situations somewhat glaucous, in exposed ones of a blood colour, as well as the whole plant, the upper ones entire, betwixt linear and lance-shaped.

LEAF-STALK the length of the leaf, on the under side striated, above single-channeled, forming a sheath at bottom, the tip of which is membranous, white, torn, and often reflexed.

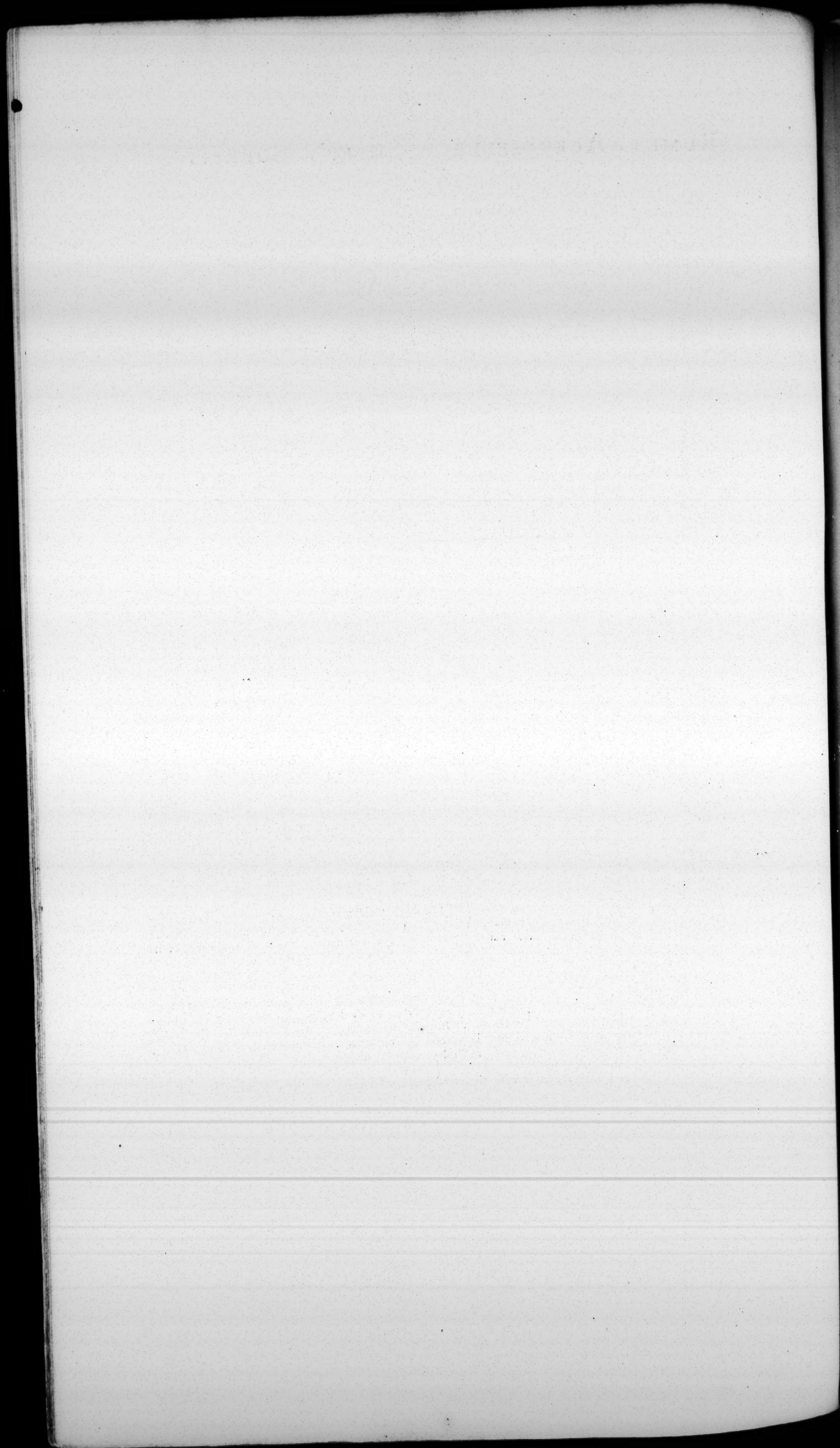
SPIKES numerous, naked, somewhat branched, and often drooping.

FLOWERS male and female in separate plants, very minute; *fig.* 1, 2. a male flower magnified; *fig.* 3. a female flower; *fig.* 4. the seed of its natural size; *fig.* 5. the same magnified.

In representing the two sexes (which occur in this as well as in the common Sorrel) we have intended that one of them should express the plant in its dwarf state, as it usually occurs on very dry, hilly pastures. In such situations the whole plant is frequently found of a bright red colour. In more shady aspects it grows taller, and the leaves assume a greener hue. Wherever it abounds we may in general look on it as a sure indication of a dry, barren soil. HALLER observes, that it is often found growing in Coal-yards (*areis carbonariorum*).

Agriculturally considered, we must number it with the weeds, and with those too, from its creeping roots, of difficult extirpation.

It is found in flower from June to September.







Rumex maritimus

RUMEX MARITIMUS. SMALL WATER DOCK.

RUMEX *Lin. Gen. Pl. Hexandria Trigynia.*

Cal. 3. phyllus. Petala 3. conniventia. Sem. 1. triquetrum.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

RUMEX *maritimus* floribus hermaphroditis: valvulis dentatis graniferis, foliis linearibus. *Lin. Syst. Vegetab. p. 285. Sp. Pl. 478. Fl. Suecic. n. 313.*

LAPATHUM petiolis latefcentibus, foliis longe lanceolatis, floribus verticillatis verrucosis. *Haller hist. n. 1590.*

LAPATHUM aquaticum, angustissime acuminato folio. *Bocc. mus. 2. p. 142. t. 115.*

LAPATHUM aureum glomerulis densis. *Pet. Herb. T. 2. fig. 8.*

ANTHOXANTHON. *J B. 11 988. angustifolium polyspermon. Merret pin.*

LAPATHUM aureum *Pet. herb. t. 2. f. 7. longo angustoque folio, Anthoxantho plurimo accedens, verticillis rarioribus caulem cingentibus, femine majori. Raii Syn. p. 142. Golden Dock. Hudson. Fl. Angl. ed. 2. p. 155. Lightfoot Fl. Scot. p. 118.*

RADIX perennis, fusiformis, foris ex rubro fusca, intus ruberrima, sapore adstringente, et ingrato.

CAULIS bi aut tripedalis, ramosus, rubicundus, fuscatus, scabriusculus.

FOLIA radicalia longe petiolata, dodrantalia aut pedalia, oblongo lanceolata, basi paululum angustata, e viridi cærulescentia, planiuscula, margine undulato-crenata, superiora lineari-lanceolata, superne fere avenia, plerumque sursum curvata.

FLORES saepius flavescentes, circa caulem in densis et numerosis glomerulis verticillatim dispositi.

CALYX: PERIANTHIUM triphyllum, foliolis lanceolatis, erectis, concavis, paululum incurvis.

COROLLA: PETALA tria, ovato-lanceolata, viridia, margine prope basin duobus aut tribus dentibus setaceis instructa, granifera, granulis, adultis super valvulis, oblongis, tumidis, majusculis. *fig. 1. 2.*

STAMINA: FILAMENTA sex, capillaria, brevissima; ANTHERÆ oblongæ, erectæ, didymæ, flavæ.

PISTILLUM: GERMEN trigonum; STYLI tres, capillares, inter rimas petalorum conniventium exterti; STIGMATA laciniata

PERICARPIUM nullum.

SEMEN unicum, triquetrum, nitidum, corollâ inclusum. *fig. 3.*

ROOT perennial and tapering, externally of a reddish brown, internally of a bright red colour, its taste astringent and unpleasant.

STALK from two to three feet high, branched, of a reddish colour, grooved, and slightly rough.

LEAVES next the root standing on long footstalks, oblong and lanceolate, a little narrowed at the base, of a blueish green colour, flattish, but slightly waved and notched on the edge, the top leaves of a shape betwixt linear and lanceolate, having on the upper side scarce any appearance of veins, and usually bent upwards.

FLOWERS mostly of a yellowish colour, placed around the stalk in numerous thick whirls.

CALYX: a PERIANTHIUM of three leaves, which are lanceolate, upright, hollow, and bent a little inwards.

COROLLA: three PETALS; oval and pointed, of a green colour, the edge near the bottom furnished with two or three fine, long teeth, the valves when full grown producing grains which are oblong, tumid and rather large. *fig. 1. 2.*

STAMINA: six Filaments very fine and very short; ANTHERÆ oblong, upright, double and yellow.

PISTILLUM: GERMEN three corner'd; STYLES three, very slender, projecting from betwixt the junctures of the closed petals, STIGMATA jagged.

SEED-VESSEL none.

SEED single, three corner'd, shining, contain'd within the closed corolla. *fig. 3.*

OF all the different species of Docks which this country produces, this seems to have been the least understood; yet are its characteristic marks not less striking, nor its varieties more remarkable than any of the other species.

That our plant is the *Rumex maritimus* of *Linnaeus* no one can doubt that reads his description in the *Flora Suecica*; the character of the *radix rubra* so peculiar to it which is given in the *Systema Vegetabilium*, is an additional confirmation of it.

The three species of *Lapathum* viz. n. 4. 5. 10 added to those of *RAY* by *DILLENIUS* in the third edition of the *Synopsis* and mark'd with an asterisk are doubtless to be referred to this plant and considered only as some of its varieties.

The name of *maritimus* seems but ill applied, as it is by no means confined in its growth to the Sea shore, the term *palustris* which *Mr. HUDSON* has given to a species which I profess my self totally ignorant of would perhaps be more suitable for it.

The plant here figured grows in the greatest plenty in the neighbourhood of my Garden St. Georges Fields, so that I have had frequent opportunities of observing it in all its states, its most striking character when in flower or seed is the number and narrowness of the leaves on its branches; when view'd more closely, we are struck with the number and length of the teeth on the edges of the seed valves, which valves are frequently though not always of a yellowish colour and furnished with remarkably large and long grains, if any doubt remains respecting the species, the root on being cut across exhibits a beautiful red colour equal to any carmine, and which is a character that I have hitherto always found to be constant to this species.

The natural situation of the *Rumex maritimus* is a moist one; thus we find it on the edges of wet ditches, and rivulets, tho' not unfrequently in pastures or drier ground, on the former particularly if the situation be sheltered and the soil luxuriant it will grow to the height of three or four feet, having radical leaves a foot long and three inches broad which when young assume a somewhat glaucous appearance, in the latter it seldom grows more than a foot high and then its radical leaves are about six inches long and one inch or somewhat more broad, (outlines of both these leaves are represented on the plate) but in neither of these situations does it lose its character above specified.

It is not only in the neighbourhood of St. Georges Fields that I have noticed this species but in similar situations in many places around London, and I doubt not but it is a very common plant in many parts of England.

It flowers in July, August and September; I remember once to have seen the leaves having red veins like those of the *Rumex sanguineus*.

It is one of those Docks which are the least noxious to the Farmer; the roots I have been informed are frequently dug up and sold for those of the sharp pointed Dock.







Rumer crispus

Sassaparilla

RUMEX CRISPUS. CURLED DOCK.

RUMEX *Linnæi* Gen. Pl. HEXANDRIA TRIGYNIA.

Cal. 3-phyllus. Petala 3-conniventia. Sem. 1, triquetrum.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

RUMEX *crispus* floribus hermaphroditis: valvulis integris graniferis, foliis lanceolatis undulatis acutis.

Linn. Syst. Vegetab. p. 284. *Spec. Plant.* p. 478. *Fl. Suecic.* p. 117.

LAPATHUM foliis crispis, imis ovatis, supremis lanceolatis, calycibus verrucosis. *Haller hist. n.* 1589.

LAPATHUM *crispum*. *Scopoli Fl. Carniol.* p. 261.

LAPATHUM folio acuto crispo. *Baubin. Pin.* 115.

LAPATHUM acuti varietas folio crispo. *Ger. emac.* 387.

LAPATHUM acutum minus. *Parkinson.* 226.

Raii Syn. p. 141. Sharp-pointed Dock with curled leaves.

Hudson Fl. Angl. p. 134.

Lightfoot Fl. Scot. 108.

RADIX perennis, flavesceus, fusiformis, per ætatem superne ramosus evadit.

CAULIS bipedalis aut tripedalis, erectus, striatus, lævis, ramosus.

FOLIA lanceolata, undulata, acuta, subtus venosa, petiolis fulcatis.

FLORES in spicas densissime glomerati, caulem penitus fere occultantes.

CALYX: PERIANTHIUM triphyllum, foliolis cymbiformibus, corollâ brevioribus, *fig. 1.*

COROLLA: PETALA tria, ovata, concava, demum conniventia, magna, granifera, venosa, reticulata, integra, SEMEN unicum, triquetrum, nitidum, pallide fuscum foventia, *fig. 3, 7, 8, 9.*

STAMINA: FILAMENTA tria, capillaria, breviora: ANTHERÆ flavæ, *fig. 3.*

PISTILLUM: GERMEN triquetrum: STYLI tres, reflexi: STIGMATA laciniata, *fig. 4, 5, 6.*

ROOT perennial, tapering, of a yellowish colour, becoming branched at top as it grows old.

STALK two or three feet high, upright, finely grooved, smooth, and branched.

LEAVES lanceolate, waved, pointed, underneath veiny, the foot-stalks grooved.

FLOWERS crowded very thickly together in spikes, and almost entirely hiding the stalk.

CALYX: a PERIANTHIUM of three leaves, which are boat-shaped, and shorter than the Corolla, *fig. 1.*

COROLLA: three oval, hollow PETALS, finally becoming closed, and large; each bearing a grain, veiny, reticulated, entire at the edges, including a three-cornered, shining, pale brown SEED, 3, 7, 8, 9.

STAMINA: three very fine short FILAMENTS: ANTHERÆ yellow, *fig. 3.*

PISTILLUM: GERMEN three-corner'd: STYLES three, turning back: STIGMATA jagged, *fig. 4, 5, 6.*

THE Docks, like the several species of *Goosefoot* and *Orach*, are with difficulty distinguished from each other.

The species here figured, is one of the most common, as well as the most injurious as a weed. It is found in almost every kind of soil and situation; as in wet meadows, by the sides of roads, and in cultivated ground, into which it is generally introduced with dung. I have remarked some Clover fields in which this plant formed nearly one half of the crop.

It may be distinguished from the other Docks by its yellow root, waved leaves, and large and numerous seed-coverings, which grow so thick as almost to hide the stalk, and which are larger than in most of the other Docks, of a roundish shape, with prominent veins, and an entire or slightly waved edge.

It flowers in June, July, and August.







Najas Plantago aquatica.

ALISMA PLANTAGO. GREAT WATER-PLANTAIN.

ALISMA *Lin. Gen. Pl.* HEXANDRIA POLYGYNIA.

Cal. 3-phyllus. *Petala* 3. *Sem.* plura.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

ALISMA *Plantago* foliis ovatis acutis, fructibus obtuse trigonis. *Lin. Syst. Vegetab.* p. 288. *Spec. Pl.* p. 486. *Fl. Suec.* n. 323.

DAMASONIUM foliis ellipticis, lanceolatis, capitulo rotunde triquetro. *Haller. Hist. n.* 1184.

ALISMA *Plantago.* *Scopoli Fl. Carn.* n. 449.

PLANTAGO aquatica latifolia. *Bauh. Pin.* 190.

PLANTAGO aquatica major. *Ger. emac.* 417. *Park.* 1245. *Raii Syn.* 257. Great Water-Plantain; *Hudson. Fl. Angl. ed.* 2. p. 159. *Lightfoot Fl. Scot.* p. 193.

RADIX perennis, alba, bulbiformis, tunicata, densissimis fibris capillata.

FOLIA omnia radicalia, longe petiolata, ovata, acuta, glabra, nervosa, integerrima, erecta, subundulata, petiolis semiteretibus, basi vaginantibus, purpurascens.

SCAPUS obtuse trigonus, nudus, lævis, pedalis ad tripedale.

RAMI floriferi verticillatim circa scapum dispositi, ut ramuli circa ramos, numero quam maxime variantes, nudi.

STIPULÆ ad basin cujusvis verticilli, membranaceæ, marcidæ, vaginantes.

CALYX: PERIANTHIUM triphyllum, foliolis ovatis, acutiusculis, concavis, lineatis, patentibus, margine membranaceis, fig. 1.

COROLLA: PETALA tria, subrotunda, purpurea, erosa, plana, patentia, remotiuscula, unguibus flavis, fig. 2.

STAMINA: FILAMENTA sex, setacea, subincurvata. ANTHERÆ virescentes, fig. 3.

PISTILLUM: GERMINA plurima, 12 et ultra, in orbem posita. STYLI tot quot germina, filiformes, erecti. STIGMATA simplicia, fig. 4. Pistillum auct. fig. 5.

ROOT perennial, white, somewhat bulbous, coated, and furnished with a tuft of numerous fibres.

LEAVES all springing from the root, standing on long foot-stalks, ovate, pointed, smooth ribbed, perfectly entire, upright, slightly waved, the foot-stalks semicylindrical, at bottom sheathing and purplish.

STALK obtusely three-cornered, naked, smooth, from one to three feet in height.

BRANCHES producing the flowers disposed in whirls round the stalk and the lesser branches in a similar manner round them, varying greatly in number, and naked.

STIPULÆ at the base of each whirl, membranous, withered and sheathing.

CALYX: a PERIANTHIUM of three leaves, the leaves ovate, a little pointed, concave, marked with lines, spreading, membranous on the edge, fig. 1.

COROLLA three PETALS, roundish, purple, gnawed on the edge, flat, spreading, somewhat remote from each other, claws yellow, fig. 2.

STAMINA: six FILAMENTS, fine and tapering, slightly bending inwards. ANTHERÆ greenish, fig. 3.

PISTILLUM: GERMINA numerous, to 12 or more placed in a circle. STYLES as numerous as the germina, filiform, upright. STIGMATA simple, fig. 4. The Pistillum magnified, fig. 5.

The ancient Botanists, taken with the first appearance of things, and observing a similarity in the leaves of this plant to those of Plantain, without consulting the flower or fruit, made it at once a Plantago, though its fructification bears not the most distant affinity to that genus.

Baron HALLER observes, that in its acrimonious quality it comes near to the Crowfoots, and on the authority of FABREGOU relates, that it has proved fatal to kine and other animals who have eaten it. From these effects he very properly queries how comes it to be considered by FLOYER as a cooler and astringent, and by BOCCONE as useful in the Piles.

Externally applied it blisters; taken internally it produces the same effect as the Crowfoots. Cattle are much injured, and sometimes killed by it. Atrophy and immobility of the hind parts of the body are the effects of which it is productive. LINDENSTOLPIUS, *Brugman's Dissertatio Quænam sunt Plantæ inutiles*, &c. 1783.

There is no plant more common than this species of Water Plantain in and by the sides of ponds, rivers, &c. It flowers in July, August, and September.







Allium Tamascenium

ALISMA DAMASONIUM. STARRY-HEADED WATER-PLANTAIN.

ALISMA *Lin. Gen. Pl.* HEXANDRIA POLYGYNIA.

Cal. 3-phyllus. *Petala* 3. *Sem.* plura.

Raii Syn. Gen. 27. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.

ALISMA *Damasonium* foliis cordato oblongis, floribus hexagynis, capsulis subulatis. *Lin. Syst. Vegetab.* p. 350. *Sp. Pl.* p. 486.

PLANTAGO aquatica stellata. *Bauh. Pin.* 190.

DAMASONIUM stellatum Dalechampii. *I. B.* III. 789.

PLANTAGO aquatica minor stellata. *Ger. emac.* 417.

PLANTAGO aquatica minor muricata. *Park.* 1245. *Raii Syn.* Star-headed Water-Plantain. *Huds. Fl. Angl. ed. 2.* p. 158.

RADIX perennis, fibrosa, fibris plurimis, densissime capillatis, simpliciusculis, ex fusco-aurantiacis, in limum profunde demissis, junioribus albis.

FOLIA longe petiolata, natantia, cordato-oblonga, integerrima, utrinque glabra, obtusa, margine ipsa purpurascens, subtus nervosa, nervis duobus vix protuberantibus parallelis prope marginem.

PETIOLI obtuse trigoni, subdiaphani, spongiosi, ad basin lati, et membranâ albidâ utrinque instructi.

SCAPUS spithameus, teres, lævis, nudus, crassiusculus, superne fordide purpureus, multiflorus.

FLORES albi, subumbellati.

UMBELLÆ plerumque tres, inferior lateralis, octoradiata, proxima superior sexradiata, suprema triradiata, numerus vero variat in diversis plantis.

INVOLUCRUM umbellæ triphyllum, foliolis ovato-lanceolatis, membranaceis, marcescentibus.

PEDUNCULI qui radii umbellæ, teretes, nudi, sesquiunciales, superioribus brevioribus.

CALYX: PERIANTHIUM triphyllum, foliolis subovatis, obtusis, concavis, patentibus, apice membranaceis, cito marcescentibus, *fig. 1.*

COROLLA: PETALA tria, subrotunda, alba, tenera, ungue flavo, *fig. 2.*

STAMINA: FILAMENTA sex, subulata, flavescens, corollâ breviora: ANTHERÆ oblongæ, flavæ, *fig. 3.*

PISTILLUM: GERMINA plerumque sex, subulata, erecta: STYLI nulli: STIGMATA villosa, subreflexa, *fig. 4.*

PERICARPIUM: CAPSULÆ sex, patentes, subulatae, inferne compressæ, uniloculares, monospermæ vel dispermae, *fig. 5.*

SEMEN oblongum, obtusum, nigricans, nitidum, ad lentem punctis exasperatum, sulco per medium utrinque longitudinali, *fig. 6.*

ROOT perennial, fibrous, fibres numerous, thickly matted together, mostly simple, of a brownish orange colour, striking deeply into the mud, the young ones white.

LEAVES standing on long footstalks, swimming, of an oblong heart shape, perfectly entire, smooth on both sides, obtuse, the very edge purplish, ribb'd on the under side, two very slightly, prominent, parallel ribs near the margin.

LEAF-STALKS obtusely three-cornered, somewhat transparent, spongy, broad at the base, and edged on each side with a whitish membrane.

STALK about a span long, round, smooth, naked, clumsy, of a dirty purple colour above, many-flower'd.

FLOWERS white, growing umbel-like.

UMBELS for the most part three, the lowermost lateral, eight-rayed, the next above six-rayed, the uppermost three-rayed, the number however varies in different plants.

INVOLUCRUM of the umbel three-leav'd, leaves ovato-lanceolate, membranous, and withering.

FLOWER-STALKS which form the rays of the umbel, round, naked, an inch and a half in length, the upper ones shortest.

CALYX: a PERIANTHIUM of three leaves, the leaflets nearly ovate, obtuse, concave, spreading, membranous at the top, and soon withering, *fig. 1.*

COROLLA composed of three roundish, white, tender PETALS with yellow claws, *fig. 2.*

STAMINA: six tapering yellowish FILAMENTS, shorter than the corolla: ANTHERÆ oblong and yellow, *fig. 3.*

PISTILLUM: GERMINA for the most part six in number, tapering, upright: STYLES none: STIGMATA villous, somewhat reflexed, *fig. 4.*

SEED-VESSEL: six spreading CAPSULES, tapering to a point, flattened below, one-cell'd, a single seed or two in each, *fig. 5.*

SEED oblong, obtuse, blackish, shining, when magnified appearing rough with little prominent points, a groove running down the middle on each side, *fig. 6.*

Not very uncommon in the neighbourhood of London, in ditches, stagnant waters, and ponds, especially such as have been formed by the digging of gravel: particularly plentiful in such like ponds on Wandsworth Common, with *Sparganium simplex*: also, about Clapham, Walworth, &c.

Flowers from June to September.

Is not remarkable for its qualities or uses.

TOURNEFORT makes a distinct genus of the *Damasonium*, referring the *Alisma Plantago* and *ranunculoides* to the genus *Ranunculus*.

RAY also separates it from the *Plantago aquatica*, but observes that it agrees with it in its tripetalous flowers, though it differs in its seed-vessels.

Notwithstanding this discrepancy in the seed-vessels, the other parts of its fructification, joined to its general habit, in our humble opinion, fully justify LINNÆUS in making it an *Alisma*.







Epilobium angustifolium

Lans on South

EPILOBIUM ANGUSTIFOLIUM. ROSEBAY WILLOW-HERB.

EPILOBIUM *Linnaei Gen. Pl. OCTANDRIA MONOGYNIA.*

Cal. 4-fidus. Petala 4. Caps. oblonga, infera. Sem. papposa.

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

EPILOBIUM *angustifolium* foliis sparsis lineari-lanceolatis, floribus inæqualibus. *Linnaei Syst. Vegetab. p. 296. Sp. Pl. 347.*

EPILOBIUM flore difformi, foliis lanceolatis, transversim nervosis. *Haller hist. n. 427.*

CHAMÆNERION *angustifolium. Scopoli Fl. Carn.*

LYSIMACHIA speciosa, quibusdam onagra dicta filiquosa. *Baubin hist. II. 906.*

LYSIMACHIA Chamænerion dicta angustifolia. *Baubin. pin. 245. Raii Synop. 310. Rosebay Willow-herb.*

Hudson Flor. Angl. p. 140.

Lightfoot Flor. Scot. p. 197.

Oeder Dan. ic. 289.

RADIX perennis, repens.

CAULIS erectus, tripedalis, ad orgyalem, ramosissimus, teres, pubescens, ramis alterne oppositis.

FOLIA lanceolata, alterna, subdecurrentia, glabra, margine minute remoteque dentatâ, nervo medio albido.

BRACTEÆ foliis similes.

FLORES purpurei, speciosi, subspicati, raro ultra quatuor aut quinque unâ in eadem spicâ florescentes.

CALYX: PERIANTHIUM tetraphyllum, superum, foliolis lanceolatis, coloratis, sursum curvatis, *fig. 1.*

COROLLA: PETALA quatuor, purpurea, patentia, subrotunda, emarginata, unguibus angustis, *fig. 2*, duobus inferioribus remotioribus.

STAMINA: FILAMENTA octo, subæqualia, purpurascens, primum deflexa, demum suberecta, Pistillo breviora: ANTHERÆ rubræ, biloculares: POLLEN viride, *fig. 3, 4.*

PISTILLUM: GERMEN inferum, oblongum, longitudine Styli, subtetragonum, glandula coronatum: STYLUS filiformis, albus, prope basin villosus: STIGMA quadrifidum, magnum, laciniis villosis revolutis, *fig. 5, 6, 7.*

PERICARIUM: CAPSULA cylindracea, incurvata, quadrilocularis, quadrivalvis.

SEMINA numerosa, striata, pappo coronata Receptaculo longissimo tetragono, libero, flexili affixa, *fig. 8, 9.*

ROOT perennial and creeping.

STALK upright, from three to six feet high, very much branched, round, and pubescent; the branches alternately opposite.

LEAVES lanceolate, alternate, running slightly down the stalk, smooth, the edge minutely and rarely indented, the midrib whitish.

FLORAL-LEAVES like those on the stalk.

FLOWERS purple, showy, growing in a kind of spike, seldom more than four or five flowering together on the same spike.

CALYX: PERIANTHIUM of four leaves, placed above the Calyx; the leaves lanceolate, coloured, and bending upwards.

COROLLA: four roundish PETALS of a purple colour, spreading, the claws narrow, *fig. 2*; the two lowermost somewhat remote from each other.

STAMINA: eight FILAMENTS, nearly of an equal length, of a purplish colour, at first bending down, finally becoming somewhat upright, shorter than the Pistillum: ANTHERÆ red, having two cavities: the POLLEN green, *fig. 3, 4.*

PISTILLUM: GERMEN below the Calyx, oblong, the length of the Style, slightly quadrangular, crowned by a gland: STYLE filiform, white, villous towards the bottom: STIGMA large, divided into four segments, which are villous, and turn back, *fig. 5, 6, 7.*

SEED-VESSEL: a CAPSULE of a cylindrical form, somewhat incurvated, of four cavities and four valves.

SEEDS numerous, striated, crowned with a down, and affixed to a very long, loose, flexible Receptacle, *fig. 8, 9.*

IN the third edition of RAY's *Synopsis*, this plant is said to have been found growing wild near *Alton*, in *Hampshire*: in confirmation of this, I have myself found it growing in a wild unfrequented wood near the same place.

The showy appearance of its blossoms, has long since introduced it into our gardens; where, by means of its creeping roots, it is apt to increase more than is desirable: and from the refuse of gardens, we suspect those plants, which we have here and there noticed about town, have arisen. Mr. HUDSON, in his *Flora Anglica*, mentions its growing on *Maize Hill*, beyond *Greenwich*.

It continues in blossom through July, August, and September.

HALLER, from several authors, mentions, that the young shoots are eatable, although an infusion of the plant stupifies; that the pith also is eatable; which when dried, is boiled, whence it becomes sweet, and by a proper process, affords good beer; as also vinegar: that it is also added to the Cow Parsnep, to enrich the spirit which is prepared from that plant: that it likewise affords good fodder for cattle; and the down of the seeds, mixed with beavers hair, has been manufactured into several articles of cloathing.

It is too distinct to be mistaken for any of the other species; and is sometimes found with white flowers.







Epilobium hirsutum

Swartz

EPILOBIUM HIRSUTUM. LARGE-FLOWER'D WILLOW-HERB.

EPILOBIUM *Linnaei* Gen. Pl. OCTANDRIA MONOGYNIA.

Cal. 4-fidus. Petala 4. Caps. oblonga, infera. Sem. papposa.

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

EPILOBIUM *hirsutum* foliis ovato-lanceolatis, semiamplexicaulibus, hirsutis; caule ramosissimo; radice repente.

EPILOBIUM *hirsutum* foliis oppositis lanceolatis ferratis decurrenti amplexicaulibus. *Lin. Syst. Vegetab.* p. 471. *Spec. Plant.* p. 494. *Flor. Suecic.* p. 123.

EPILOBIUM foliis semiamplexicaulibus, lanceolatis, hirsutis. *Haller. hist. helv.* p. 125.

CHAMÆNERION *hirsutum*. *Scopoli Fl. Carniol.* 270.

LYSIMACHIA filiquosa hirsuta magno flore. *Baubin. pin.* 245.

LYSIMACHIA filiquosa. *Ger. emac.* 476.

Raii Syn. p. 311. Great hairy coddled Loofestripe or Willow-herb, called also Codlings and Cream.

Hudson. *Fl. Angl.* p. 141. 3. ed. 2. p. 162. 3.

Lightfoot. *Fl. Scot.* p. 197.

Oeder. *Fl. Dan. ic.* 326.

RADIX perennis, furculosa, fibris capillata, e cujus capite erumpunt germina majuscula, rubentia, in summâ tellure reptantia, quibus se late diffundit et propagat.

CAULIS tripedalis ad orgyalem, erectus, ramosissimus, teres, ad basin subtetragonus, hirsutus, purpurascens; RAMI cauli fimiles, adscendentes.

FOLIA ovato-lanceolata, argute denticulata, hirsuta, semiamplexicaulia, venosa, ramorum subtortuosa.

FLORES magni, speciosi, purpurei, subcampanulati, paululum nutantes.

CALYX: PERIANTHIUM superum, erectum, quadripartitum, basi angulosum, laciniis ovato-acutis, fundo villoso, fig. 1.

COROLLA: PETALA quatuor, obcordata, emarginata, purpurea, basi albida, calyce duplo longiora, fig. 2.

STAMINA: FILAMENTA octo, quorum quatuor longiora, alba, subulata: ANTHERÆ oblongæ, biloculares, flavescentes, fig. 3.

PISTILLUM: GERMEN oblongum, villosum, inferum, tetragono-fulcatum, glandulis minimis coronatum: STYLUS filiformis, declinatus, Stamina longior: STIGMA crassum, quadrifidum, laciniis revolutis, villosis, fig. 4, 5, 6.

PERICARPIUM: CAPSULA triuncialis, obtuse tetragona, fulcata, ut in germine glandulis terminata, leniter hirsuta, quadrilocularis, quadrivalvis.

SEMINA ovata, pallide fusca, plurima, papposa, lente visa hinc convexa, scabriuscula, illinc compresso-fulcata, RECEPTACULO tetragono, libero, flexili seriatim affixa, fig. 7.

ROOT perennial, full of shoots, with numerous fibres, sending off from the upper part stoles of a considerable thickness, which creeping under the surface of the ground, spread widely and propagate the plant.

STALK from three to six feet high, upright, very much branched, round, somewhat quadrangular at bottom, hirsute, and purplish: BRANCHES like the stalk, nearly upright.

LEAVES betwixt oval and lanceolate, finely toothed at the edges, hirsute, half embracing the stalk, veiny, those on the branches a little twisted.

FLOWERS large, showy, of a purple colour, somewhat bell-shaped, and hanging down a little.

CALYX: a PERIANTHIUM placed above the Germen, upright, angular at the base, deeply divided into four segments, which are oval and pointed, the bottom in the inside villous, fig. 1.

COROLLA: four PETALS inversely heart-shaped, emarginated, of a purple colour with a white base, and twice the length of the Calyx, fig. 2.

STAMINA: eight FILAMENTS, four of which are shorter than the others, white and tapering: ANTHERÆ oblong, bilocular, and yellowish, fig. 3.

PISTILLUM: GERMEN oblong, villous, placed below the Calyx, four-corner'd and grooved, crowned with very minute glands: STYLE filiform, hanging down, and longer than the Stamina: STIGMA thick, divided into four segments, which are villous and roll'd back, fig. 4, 5, 6.

SEED-VESSEL, a CAPSULE about three inches long, obtusely four cornered, and grooved, terminated as in the Germen with glands, slightly hirsute, having four cavities and four valves.

SEEDS oval, pale brown, numerous, downy, viewed with a magnifier on one side convex, and roughish, on the other, flattish and grooved, affixed in rows to a four-cornered, loose, flexible RECEPTACLE, fig. 7.

THE *Lyfimachia filiquosa hirsuta magno flore*, and the *Lyfimachia hirsuta parvo flore* of BAUHINE, are considered by LINNÆUS as the same species.

Mr. RAY, both in his *Historia Plantarum* and *Synopsis*, considers them as distinct species; and Mr. HUDSON, viewing them in the same light, gives a new name to the larger flowering one, calling it *ramosum*, and retains the name of *hirsutum* for the smaller flowering one: but as the larger flowering plant is the species which LINNÆUS has distinguished by the name of *hirsutum*, there appears more propriety in adopting his name for the species, and giving a new name to what he considers as the variety.

The species here figured, grows very commonly in and by the sides of wet ditches, ponds, &c. rising generally to the height of five feet.

It flowers in July and August.

A variety with a white flower sometimes occurs; and a sort with variegated leaves, is sold by the gardeners.

Having a creeping root, it is very apt to increase too much if not properly attended to. The leaves, when young, have a shining appearance; and if bruised, send forth an agreeable smell, whence its name of *Codlings and Cream*.

Is it not a plant deserving the notice of the Farmer? If cattle are found to eat it, either green or dried, may it not be cultivated to advantage in wet situations, where other useful plants will not grow?

PLANTIN HERBARIUM
HERBARIUM OF THE
ROYAL BOTANICAL GARDEN
OF THE NETHERLANDS

1844

1845

1846

1847

1848

1849

1850

1851

1852

1853

1854

1855

1856

1857

1858

1859

1860

1861

1862

1863

1864

1865

1866

1867

1868

1869

1870

1877



*Epilobium villosum*

EPILOBIUM VILLOSUM. HOARY WILLOW-HERB.

EPILOBIUM *Linnaei* Gen. Pl. OCTANDRIA MONOGYNIA.

Cal. 4-fidus. Petala 4. Caps. oblonga, infera. Sem. papposa.

Raii Syn. Gen. 21. HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

EPILOBIUM *villosum* foliis oblongo-lanceolatis, dentatis, pubescentibus, caule tereti villoso.

EPILOBIUM *hirsutum* foliis lanceolatis ferratis subdecurrentibus; inferioribus oppositis, caule subsimplici. *Hudson Fl. Angl. ed. 2. p. 162.*

LYSIMACHIA filiquosa hirsuta parvo flore. *C. Baubin. pin. 245. Prod. 116.*

LYSIMACHIA filiquosa hirsuta flore minore. *I. B. II. 906.*

LYSIMACHIA filiquosa sylvestris hirsuta. *Parkinson? Raii Hist. Pl. p. 861. Syn. ed. 3. p. 311.*

The lesser hairy coddled Loofestripe or Willow-herb, with small flowers.

Lightfoot. Fl. Scot. p. 198. var. hirsut.

RADIX perennis, fibrosa.

CAULIS pedalis ad tripedalem, simplex, aut ramosus pro loco natali, teres, villosus.

FOLIA oblongo-lanceolata, connata, non vero decurrentia, rare dentata, dentibus glandulosis, mollia, pubescentia, subtus albida, patentia, in locis siccioribus sæpe erecta.

FLORES parvi, purpurei.

CALYX: PERIANTHIUM tetraphyllum, superum, foliolis ovato-lanceolatis, hirsutulis, *fig. 1.*

COROLLA: PETALA quatuor, obcordata, calyce duplo fere longiora, *fig. 2.*

STAMINA: FILAMENTA octo; subulata, alterna breviora: ANTHERÆ ovales, compressæ, obtusæ, *fig. 3.*

PISTILLUM: GERMEN cylindraceum, longissimum: STYLUS filiformis: STIGMA crassum, quadrifidum, laciniis vix vero revolutis, *fig. 4.*

PERICARPIUM: CAPSULA prælonga, rubescens.

SEMINA plurima, pappo coronata.

ROOT perennial and fibrous.

STALK from one to three feet high, simple or branched according to its place of growth, round, hoary, and purplish.

LEAVES oblong and lanceolate, uniting at bottom around the stalk, but not running down it, teeth at the edge few and glandular, soft, downy, underneath whitish, spreading, but in more dry situations frequently upright.

FLOWERS small and purple.

CALYX: a PERIANTHIUM of four leaves, placed above the Germen, oval, pointed, and slightly hirsute, *fig. 1.*

COROLLA: four PETALS inversely heart-shaped, almost twice the length of the Calyx, *fig. 2.*

STAMINA: eight FILAMENTS, tapering, the four alternate ones shortest: ANTHERÆ oval, flattened, and obtuse, *fig. 3.*

PISTILLUM: GERMEN cylindrical, very long: STYLE filiform: STIGMA thick, divided into four segments, which are scarcely rolled back, *fig. 4.*

SEED-VESSEL, a long CAPSULE, of a reddish colour.

SEEDS numerous, covered with a pappus or down.

IN three respects does this plant particularly, and invariably, differ from the *hirsutum*; of which, as hath before been observed, it is considered by LINNÆUS and other writers, as a variety only; viz. in its blossoms, root, and pubescence; either of which would appear alone sufficient to constitute it a distinct species.

The blossoms in the first place, are not in general more than one third as large; the root does not creep; and the stalk and leaves, are covered with numerous soft hairs, which give the whole plant a whitish or hoary appearance, that is particularly striking.

Besides these characters, the plant is also much smaller; and in general, is not so much branched. I have often gathered specimens of it not more than a foot in height, with a simple stalk; and have also frequently found it much higher, as well as much branched, when there was no reason to suppose the plant had received any injury, which Mr. HUDSON asserts is always the case, when the plant occurs in the latter state. The Calyx and Stigma, differ also very materially in the two plants.

It is very common with us on the banks of rivulets, and in watery places; and flowers in July and August.

No particular qualities are ascribed to it.







Epilobium montanum.

EPILOBIUM MONTANUM.

WOOD WILLOW-HERB.

EPILOBIUM *Linnaei Gen. Pl.* OCTANDRIA MONOGYNIA

Calyx quadrifidus. *Petala* quatuor. *Capsula* oblonga, infera. *Semina* papposa.

Raii Synops. Gen. 22. HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

EPILOBIUM foliis oppositis, ovatis, dentatis, *Linnaei Syst. Vegetab.* p. 296. *Fl. Suecic.* n. 329.

EPILOBIUM foliis ovato-lanceolatis, glabris, dentatis, *Haller Hist.* n. 996.

CHAMAENERION montanum *Scopoli Fl. Carn.* p. 270.

LYSIMACHIA filiquosa glabra major. *Baubin* p. 245.

LYSIMACHIA filiquosa major *Parkinson.* 548.

LYSIMACHIA campestris. *Gerard emac* 478. *Raii. Hist.* p. 861. The greater smooth-leaved coddled Willow-herb or loose strife. *Syn.*

Hudson. Fl. Angl. ed. 2. p. 4.

Lightfoot Fl. Scot. p. 198.

RADIX perennis, sublignosa, fibrosa, gemmulis ruberrimis superne instructa.

CAULIS pedalis ad tripedalem, erectus, rubicundus, teres, subpubescens, superne ramosus, sæpe vero simplex.

RAMI oppositi.

FOLIA opposita, pedicellis brevissimis basi connatis infidentia, ovato acuta, argute dentata, superne glabra, inferne pallidiora, venosa, hirsutula, imis sæpe ruberrimis.

CALYX: PERIANTHIUM superum, tetraphyllum, foliolis lanceolatis, nervo medio conspicuo, *fig. 1.*

COROLLA: PETALA quatuor, obcordata, profunde emarginata, pallide purpurea, calyce longiora, patentia. *fig. 2.*

STAMINA: FILAMENTA octo, subulata, alba, quorum quatuor alterna breviora, ANTHERÆ flavicentes. *fig. 3.*

PISTILLUM: GERMEN tetragonum, inferum, prælongum, sulcatum; STYLUS albus, longitudine staminum, apice paululum incrassatus; STIGMA quadrifidum, album, laciniis patentibus, non vero revolutis. *fig. 4. 5.*

SEMINA minima, papposa. *fig. 6.*

ROOT perennial, somewhat woody and fibrous, on its upper part furnished with little buds of a bright red colour.

STALKS from one to three feet high, upright, of a red colour round, scarce perceptibly downy, branched above, but often single.

BRANCHES opposite.

LEAVES opposite, sitting on very short footstalks, whole bases unite, ovate and pointed, sharply toothed on the edges, on the upper side smooth, on the under side of a paler colour, veiny and very slightly hairy, the bottom ones often of a bright red colour.

CALYX: a PERIANTHIUM placed above the germen, composed of four narrow pointed leaves, in which the midrib is conspicuous. *fig. 1.*

COROLLA four PETALS inversely heart-shaped, deeply notched, of a pale purple colour, longer than the calyx and spreading. *fig. 2.*

STAMINA eight FILAMENTS, tapering, of a white colour, four of which are alternately shorter; ANTHERÆ yellowish. *fig. 3.*

PISTILLUM: GERMEN four cornered, placed beneath the calyx, very long and grooved; STYLE white, the length of the stamina, thickened a little at top; STIGMA divided into four segments, white, the segments spreading but not rolled back. *fig. 4. 5.*

SEEDS very small and downy. *fig. 6.*

MOST of the Willow-herbs that we have already figured, have grown in wet situations, this rather delights in Woods, Hedge-rows, shady Lanes, and Hedges, sometimes it is also found on Walls in Courts and Areas; it flowers from June to August.

We sometimes find it having three or four leaves at each joint, a variety to which most of this family is subject.







Epilobium tetragenum

Epilobium tetragonum. Square-Stalk'd Willow-Herb.

EPILOBIUM *Linnaei. Gen. Pl. OCTANDRIA MONOGYNIA.*

Cal. 4-fidus. Petala 4. Caps. oblonga, infera. Sem. papposa.

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

EPILOBIUM *tetragonum* foliis lanceolatis denticulatis; caule tetragono; stigmate integerrimo.

EPILOBIUM foliis lanceolatis denticulatis; imis oppositis, caule tetragono. *Lin. Syst. Vegetab. p. 297. Sp. Plant. 495.*

EPILOBIUM foliis lanceolatis, glabris, dentatis. *Haller. hist. p. 426. n. 997.*

CHAMÆNERION *tetragonum. Scopoli. Flor. Carniol. p. 271. 454.*

LYSIMACHIA filiquosa glabra media five minor. *Gerard. emac. 479.*

LYSIMACHIA filiquosa glabra minor. *Baubin. Pin. 245. Raii. Syn. p. 311. 5, Middle smooth-leaved coddled Willow-herb, or Loofestriefe.*

Hudson Fl. Angl. ed. 1. p. 141. ed. 2. p. 162,

Lightfoot. Fl. Scot. p. 198.

RADIX perennis, fibrosa, fibris albidis, stolonibus quotannis reparata, non vero repens.

CAULIS erectus, superne valde ramosus, bipedalis, rigidus, inferne purpurascens, subtetragonus, lævis.

FOLIA subdecurrentia, unde caulis angulosus, inferiora lanceolata, superiora lineari-lanceolata, ferrata, venosa, glabra.

FLORES parvi, purpurei.

CALYX: PERIANTHIUM quadripartitum, foliis lanceolato-acuminatis, pubescentibus, carinatis, apicibus rufis, *fig. 1.*

COROLLA: PETALA quatuor, purpurea, venis faturioribus sæpe striata, calyce paulo longiora, emarginata, *fig. 2.*

STAMINA: FILAMENTA octo, quorum quatuor breviora: ANTHERÆ flavescentes, *fig. 3.*

PISTILLUM: GERMEN tetragonum, pubescens: STYLUS brevis, albus: STIGMA crassum, album, integerrimum, *fig. 4.*

PERICARPIUM: CAPSULA longissima, fere triuncialis, pedunculis triplo brevioribus insidens.

SEMINA plurima, papposa.

ROOT perennial, fibrous, the fibres whitish, repaired yearly by new shoots, but not creeping.

STALK upright, at top much branched, about two feet high, stiff, at bottom purplish, smooth, and somewhat square.

LEAVES somewhat decurrent, whence the angular appearance of the stalk; the lower ones lanceolate; the upper ones narrower, serrated, veiny, and smooth.

FLOWERS small and purple.

CALYX: a PERIANTHIUM divided into four segments, which are narrow and tapering to a point, downy, the midrib projecting on the under side, the tips reddish, *fig. 1.*

COROLLA: four PETALS, purple, often streaked with veins of a deeper colour, somewhat longer than the calyx, with a notch at top, *fig. 2.*

STAMINA: eight FILAMENTS, four long and four short: ANTHERÆ yellowish, *fig. 3.*

PISTILLUM: GERMEN square, downy: STYLE short and white: STIGMA thick, white, and perfectly entire, *fig. 4.*

SEED-VESSEL a very long CAPSULE, approaching to three inches, sitting on a flower-stalk thrice as short.

SEEDS numerous and downy.

THE present species of *Epilobium*, takes its name of *tetragonum* from the apparent squareness of its stalk, which however is not so completely square as that of the *Hypericum quadrangulum*, but assumes rather an angular appearance, arising as in many other plants, from projecting lines running from the leaves down the stalk: this however is one of the most striking characters of this species: to which may be added the narrowness of its leaves, the uncommon length of its pods, and its undivided stigma.* These are the peculiarities by which this plant may readily be distinguished: but too much stress must not be laid on some of them.

The breadth of a leaf, its being placed on a peduncle, or sitting close to the stalk, are in general considered as excellent specific characters; but in this plant, as well as some others, we have a proof of their fallibility; the leaves being sometimes nearly as broad as those of the *montanum*, and placed on foot-stalks of a considerable length. When I first accidentally met with this variety, I was led to conclude it to be a distinct species; but a careful attention to it, afterwards convinced me it was only a variety.

The *Epilobium tetragonum* is no uncommon plant with us; but is generally to be met with in watery ditches, by the sides of roads; and where it does occur, it usually abounds. Among a variety of other places, I have observed it in the Lane leading from *Newington* to *Hornsey Wood*.

It flowers with the other *Willow-herbs*.

The farmer has no reason to complain of it: nor is it celebrated in the annals of physic.

*This character seems first to have been noticed by RAY: his words are *Stylus non ut in præcedente quadrifidus est*, *Hist. Pl. p. 861.*







Erica vulgaris.

ERICA VULGARIS. COMMON HEATH.

ERICA *Lin. Gen. Pl.* OCTANDRIA MONOGYNIA.

Cal. 4-phyllus. *Cor.* 4-fida. *Filamenta* receptaculo inserta. *Antherae* bifidae.
Caps. 4-locularis.

Raii Syn. ARBORES ET FRUTICES.

ERICA *vulgaris* antheris aristatis, corollis campanulatis subæqualibus, calycibus duplicatis, foliis oppositis sagittatis. *Lin. Syst. Vegetab.* p. 301. *Sp. Pl.* p. 501. *Fl. Suec.* n. 336.

ERICA foliis imis adpressis simplicibus, floralibus calcaratis. *Haller. Hist. n.* p. 1012.

ERICA *vulgaris.* *Scopoli Fl. Carn.* n. 460.

ERICA *vulgaris* glabra. *Bauh. Pin.* 485.

ERICA *vulgaris* seu *pumila.* *Ger. emac.* 1380.

ERICA *vulgaris.* *Parkins.* 1480. *Raii Syn.* 470. Common Heath or Ling. *Scot. Hather.* *Hudson.*
Fl. Angl. ed. 2. p. 165. *Lightfoot Fl. Scot.* p. 204.

Fruticulus pedalis, bipedalis et ultra, valde ramosus, rami suberecti, teretes, pubescentes, rubicundi.

FOLIA opposita, circa ramulos in quatuor series imbricata, sessilia, sagittata.

FLORES purpurei, spicati, subsecundi.

PEDUNCULI brevissimi, longitudine foliorum.

CALYX: duplex, persistens, exterior brevissimus, tetraphyllus, foliolis ovatis, acutis, patentibus, e viridi purpurascens, ad lentem ciliatis, interior cum corolla concolor, tetraphyllus, foliolis ovato-lanceolatis, nitidis, corolla longioribus, demum inflexis, *fig. 1, 2.*

COROLLA monopetala, purpurea, quadripartita, corollâ brevior, inclusa, *fig. 3.*

STAMINA: FILAMENTA octo, alba. ANTHERÆ subcoadunatæ, aurantiacæ, bicornes, *fig. 4, 5.*

PISTILLUM: GERMEN villosum. STYLUS calyce longior, sursum curvatus. STIGMA quadrifidum, *fig. 6.*

A small shrub, a foot or two in height, or more, very much branched, the branches mostly upright, round, downy, and reddish.

LEAVES opposite, sessile and arrow-shaped, placed round the small branches in four rows.

FLOWERS purple, growing in a spike, mostly all one way.

FLOWER-STALKS very short, the length of the leaves.

CALYX: double, and permanent, the outermost very short, composed of four leaves, which are ovate, pointed, spreading, partly green, and partly purple, when magnified hairy on the edges, the inner one the same colour as the corolla, composed of four somewhat lanceolate leaves, shining, longer than the corolla, finally bending inward, *fig. 1, 2.*

COROLLA monopetalous, purple, deeply divided into four segments, shorter than the corolla, and inclosed within it, *fig. 3.*

STAMINA: eight white FILAMENTS. ANTHERÆ somewhat united, orange-coloured, each furnished with two little horns, *fig. 4, 5.*

PISTILLUM: GERMEN villous. STYLE longer than the calyx, bent upward. STIGMA quadrifid, *fig. 6.*

There is, perhaps, no tribe of plants whose flowers assume a greater variety of form than those of the present genus. Such as have had opportunities of examining many of the foreign heaths, must assent to the truth of this observation; and such as have not, need only consult the present species, and compare the dissections with those of the *Eri a cinerea*, and *Tetralix* already figured, to be perfectly convinced of it: so great indeed has this difference appeared to some botanists, that they have divided them into distinct genera.

Africa produces more heaths than the whole world besides. Next to Africa, Europe is the most productive; and almost every part of this quarter of the globe, especially the northern, abounds with this species. LINNÆUS remarks, in his *Flora Lapponica*, that, in some of the districts through which he passed, scarce any plant was to be seen but the barren heath, which every where covered the ground, and could no ways be extirpated. The country people, he observes, had an idea that there were two plants which would finally overspread and destroy the whole earth, viz. Heath and Tobacco.

Exclusive of the animation which the blossoms of this species in particular impart to our dreary wastes at the close of summer, it answers many important purposes in natural as well as rural œconomy.

While its branches afford shelter to many of the feathered tribe, its seeds form a principal part of their food, especially those of the Grouse kind: and here we may remark a particular provision of nature in forming the seed-vessel, &c. in such a manner as to preserve the seeds a whole year, or longer, whence they have a constant supply. The foliage of this species affords nourishment to the caterpillar of the *Phalæna quercus Linnæi*, or great Egger Moth: we observed many instances of this in our northern tour. Bees are well known to collect largely from the blossoms of heath; but such honey is browner, coarser, and of less value than such as is collected where no heath grows. According to Linnæus's experiments, no kind of cattle appear to be fond of it. Horses and Oxen will eat it; Sheep and Goats sometimes eat, sometimes reject it. Cattle, not accustomed to browse on heath, give bloody milk; but are soon cured, by drinking plentifully of water. *Pennant's Tour*, p. 229.

Heath or Hather is applied to many œconomical purposes among the Highlanders: they frequently cover their houses with it instead of thatch, or else twist it into ropes, and bind down the thatch with them in a kind of lattice-work. In most of the western isles they dye their yarn of a yellow colour, by boiling it in water with the green tops and flowers of this plant. In Rum, Skye, and the Long Island, they frequently tan their leather in a strong decoction of it. Formerly the young tops are said to have been used alone to brew a kind of ale; and even now, I was informed, that the inhabitants of Isla and Jura still continue to brew a very potable liquor, by mixing two-thirds of the tops of Hather, and one-third of malt. This is not the only refreshment that Hather affords; the hardy Highlanders frequently make their beds with it, laying the roots downwards, and the tops upwards, which, though not quite so soft and luxurious as beds of down, are altogether as refreshing to those who sleep on them, and perhaps much more healthy. *Lightfoot Fl. Scot.* p. 205.

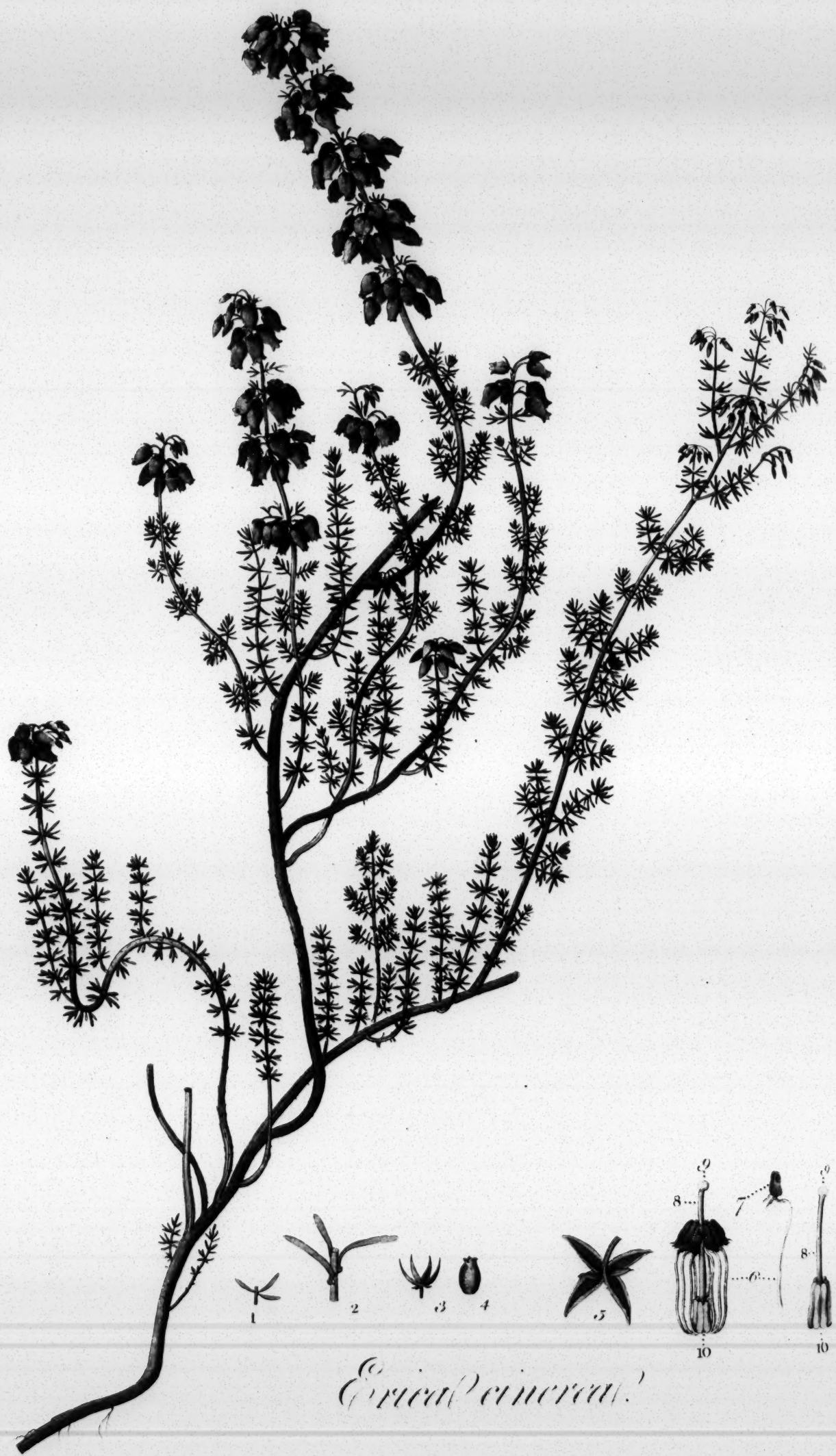
In most parts of Great Britain, Heath is in general use for making brooms; and for this purpose is usually cut when in blossom. The turf, with the Heath growing on it, is cut up, dried, and used for fuel by the poor cottager. It is also in use for heating ovens, for mending bad roads where better materials are wanting, and for making drains under-ground.

This species, as well as the others, is sometimes found with white blossoms, and a variety with hoary leaves is not uncommon, particularly on Bagshot Heath. Some authors have improperly considered this as the *Erica ciliaris* of LINNÆUS.

The Dodder very frequently entwines itself about this plant, and gives it an appearance which may puzzle, if not mislead, the inexperienced botanist.







Erica cinerea.

ERICA CINEREA. FINE LEAVED HEATH.

ERICA *Linnaei Gen. Pl.* OCTANDRIA MONOGYNIA.

Cal. 4-phyllus. *Cor.* 4-fida. *Filamenta* receptaculo inserta. *Antherae* bifidae.

Caps. 4-locularis.

Raii Syn. ARBORES ET FRUTICES.

ERICA *cinerea* foliis ternis glabris linearibus.

ERICA *cinerea* Antheris cristatis, Corollis ovatis, Stylo subexserto, foliis ternis, Stigmate capitato.

Linnaei Syst. Vegetab. p. 303.

ERICA *humilis*, cortice cinereo Arbuti flore. *Baubin* p. 486.

ERICA *virgata* five *VI Clusii*. *Parkinson* 1483.

ERICA *tenuifolia* *Gerard emac.* 1380. *Raii Syn.* p. 471, Fine leaved Heath. *Hudson Fl. Angl.* p. 144.

Oeder Dan. icon. 38.

RADIX perennis, lignosa.

CAULES suffruticosi, pedales, lignosi, cortice cinereo, ramosi, ramis oppositis.

FOLIA ternia, linearia, patentia, supra glabra, nitida, transversim rugosa, infra canaliculata, saturate viridia, *fig.* 1, 2.

FLORES saturate purpurei, tactu sonori, spicati, spicis longis, verticillato-glomerati, terminalibus.

CALYX PERIANTHIUM tetraphyllum, foliolis lanceolatis, acuminatis, margine membranaceis, coloratis, persistentibus, foliolis duobus acutis et multo minoribus ad basin, *fig.* 3, 5.

COROLLA monopetala, ovata, ore quadrifido, laciniis obtusis, saepe emortuis, persistens, *fig.* 4.

STAMINA: FILAMENTA octo, subulata, alba, Corollâ breviora, receptaculo inserta; ANTHERÆ subfagittatae cohaerentes, biloculares, bicornes, cornibus laciniatis, ad basin rubris, biforaminosae, *fig.* 6, 7.

PISTILLUM: GERMEN cylindraceum, fulcatum; STYLUS subulatus, purpureus, Corollâ inclusus, Staminiibus longior; STIGMA subrotundum *fig.* 8, 9, 10.

PERICARPIUM CAPSULA subrotunda, quadrilocularis, quadrivalvis.

SEMINA plura, subovata, superficie reticulata, Tetralicis quadruplo majora.

ROOT perennial and woody.

STALKS shrubby, about a foot high, woody; the bark of an ash colour, branched; the branches opposite.

LEAVES growing three together, linear, spreading, above smooth and shining, transversely wrinkled; below hollow, of deep green colour, *fig.* 1, 2.

FLOWERS of a deep purple colour, sonorous when touched, growing in long, clustered, whirled spikes, which are terminal.

CALYX: a PERIANTHIUM of four leaves, of a pointed oval shape, membranous at the edge, coloured, continuing, with two pointed and much smaller leaves at the bottom of them, *fig.* 3, 5.

COROLLA of one Petal, oval, the mouth divided into four segments, which often occur withered, continuing, *fig.* 4.

STAMINA: eight FILAMENTS, tapering, white, shorter than the Corolla, inserted into the Receptacle: ANTHERÆ somewhat arrow shaped, adhering together, with two cavities open at top, and two little horns which are jagged and red at bottom, *fig.* 6, 7.

PISTILLUM: GERMEN cylindrical, grooved: STYLE tapering, purple, inclosed within the Corolla, but longer than the Stamina: STIGMA roundish, *fig.* 8, 9, 10.

SEED-VESSEL a roundish Capsule of four cavities and four valves.

SEEDS several, of an oval shape, the surface reticulated, four times larger than those of the cross leaved Heath.

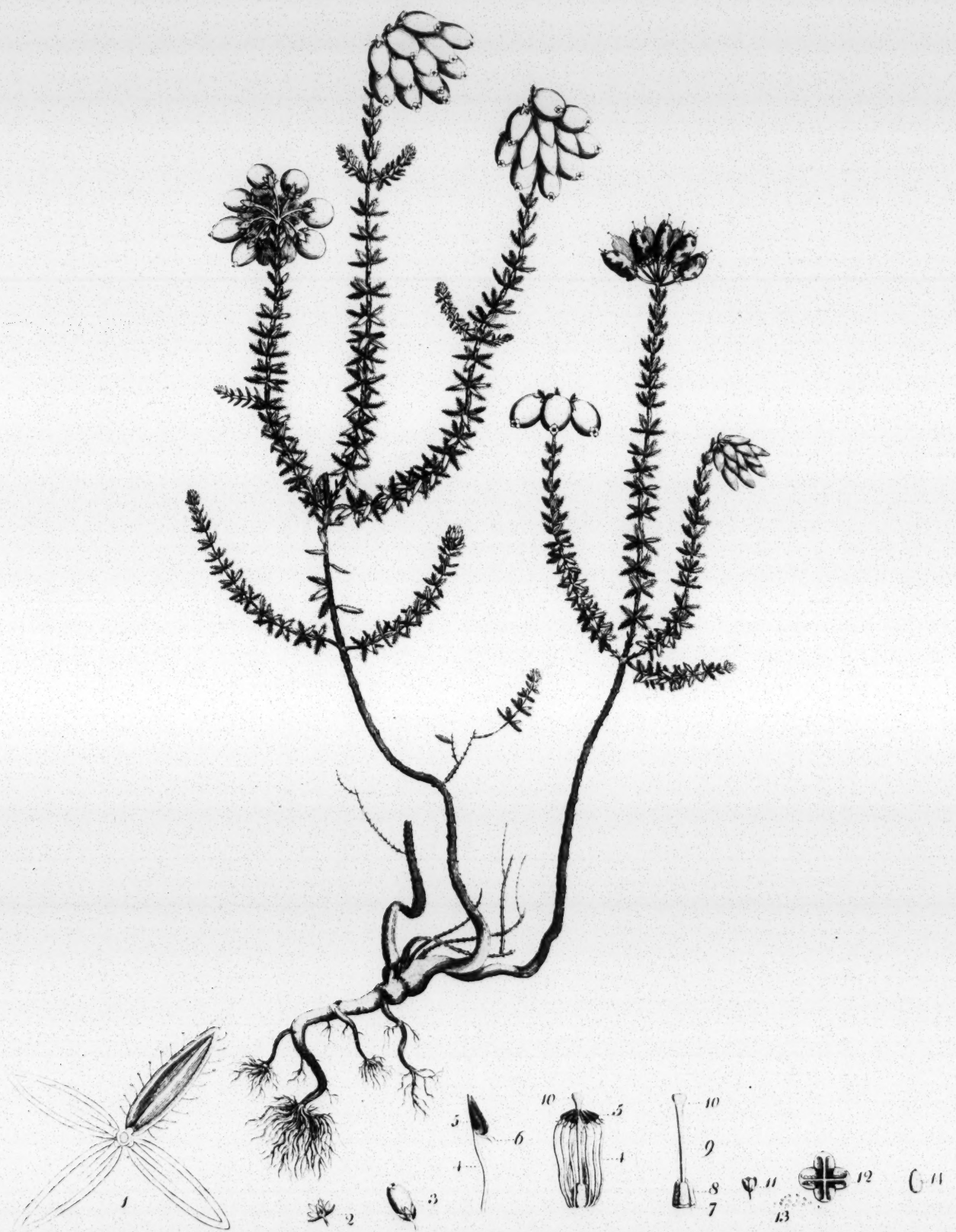
THIS species of *Heath*, which produceth the most showy flowers, grows generally with the *cross-leaved* and *common Heath*; and flowers in July and August.

As it grows to a pretty considerable height, it is applicable to the same uses as the *common Heath*.

It is distinguished from the *cross-leaved Heath*, by the fineness, smoothness and deep green colour of its leaves: its flowers also grow more in spikes, and are of a deeper purple colour.







Erica tetralix

ERICA TETRALIX. CROSS-LEAVED HEATH.

ERICA *Linnaei Gen. Pl.* OCTANDRIA MONOGYNIA.

Cal. 4-phyllus. *Cor.* 4-fida. *Filamenta* receptaculo inserta. *Antheræ* bifidæ.

Caps. 4-locularis.

Raii Syn. ARBORES ET FRUTICES.

ERICA *tetralix* foliis quaternis ciliatis, floribus capitatis imbricatis.

ERICA *tetralix*, antheris aristatis, corollis ovatis, stylo incluso, foliis quaternis ciliatis, floribus capitatis.

Linn. Syst. Vegetab. p. 302. *Fl. Suecic. n.* 337.

ERICA *ex rubro nigricans scoparia.* *Baubin Pin.* 486.

ERICA *Brabantica folio Coridis hirsuto quaterno.* *I. B.* 1. 358.

ERICA *pumila Belgarum Lobelio, scoparia nostras.* *Parkinson.* 1482.

ERICA *major flore purpureo.* *Gerardemac.* 1382 *Raii Syn. p.* 471, Low Dutch Heath or Besome Heath.

Hudson Fl. Angl. p. 144. *Oeder Fl. Dan. icon.* 81.

CAULES fruticosi, dodrantes aut pedales, ramosi, fusci, scabriusculi ex relietamentis foliorum.

FOLIA *quaterna*, ovato-linearia, patentia, prope flores cauli adpressa, marginibus inflexis, *ciliatis*, ciliis glandulâ terminatis, superficie superiore plana, inferiore concava.

FLORES secundi, imbricati, in capitulum congesti, carnei.

CALYX: PERIANTHIUM hexaphyllum, foliolis hirsutis, duo inferiora ovato-lanceolata, cætera linearia, *fig.* 2.

COROLLA ovata, monopetala, ore quadrifido, laciniis reflexis, *fig.* 3.

STAMINA: FILAMENTA octo, subulata, alba, corollâ breviora, receptaculo inserta; ANTHERÆ sagittatæ, conniventes, purpureæ, biforaminosæ, bicornes, *fig.* 4, 5, 6.

PISTILLUM: GERMEN cylindraceum, subfulcatum, villosum, glandulâ ad basin cinctum, *fig.* 7, 8; STYLUS filiformis, purpurascens, *fig.* 9; STIGMA, obtusum, *fig.* 10.

PERICARPIUM: CAPSULA subrotunda, villosa, apice truncata, quadrivalvis, *fig.* 11, 12.

SEMINA plurima, minuta, flavescentia, *fig.* 13, 14.

STALKS shrubby, about nine or twelve inches high, branched, roughish from the remains of the leaves which have fallen off.

LEAVES growing by fours, of an oval-linear shape, spreading, near the flowers pressed close to the stalk, the edges turned in and *ciliated or hairy*, each of the hairs terminating in a small round globule, the upper surface flat, the inferior surface concave.

FLOWERS hanging down one over another all one way, forming a little head, of a pale red colour.

CALYX: a PERIANTHIUM of six leaves, the leaves hairy, the two lowermost of an oval-pointed shape, the rest linear, *fig.* 2.

COROLLA oval, monopetalous, the mouth divided into four segments, which turn back, *fig.* 3.

STAMINA: eight FILAMENTS, tapering, white, shorter than the Corolla, inserted into the receptacle; ANTHERÆ arrow-shaped, closing together, purple, having two apertures for the discharge of the Pollen, and two little horns, *fig.* 4, 5, 6.

PISTILLUM: GERMEN cylindrical, slightly grooved, villous, surrounded at bottom by a gland, *fig.* 7, 8; STYLE filiform, purplish, *fig.* 9. STIGMA blunt, *fig.* 10.

SEED-VESSEL: a roundish CAPSULE covered with a kind of down, cut off as it were at top, having four valves, *fig.* 11, 12.

SEEDS numerous, minute, and yellowish, *fig.* 13, 14.

THIS species of *Heath*, though not applicable to such a variety of uses as some of the others, is not inferior to any of them in the beauty and delicacy of its flowers, which in general are of a pale red colour, but sometimes they occur entirely white.

It is obviously enough distinguished from the rest, not only by its flowers growing in a kind of pendulous cluster on the tops of the stalks, but by its leaves also, which growing by fours on the stalk, form a kind of cross; these are edged with little stiff hairs, each of which has a small globule at its extremity.

At the latter end of the Summer it contributes its share with the others to decorate and enliven those large tracts of barren land which too often meet the eye in many parts of this kingdom.

It delights to grow in a moister situation than some of the others, and will thrive well enough in gardens, if taken up either in Spring or Autumn with a quantity of earth about its roots: this is necessary, as the *Heaths* in general bear transplanting ill.







Polygonum — Bistorta.

Willd. Enum. p. 104. n. 1.

POLYGONUM BISTORTA. THE GREATER BISTORT OR SNAKE-WEED.

POLYGONUM *Linnaei Gen. Pl. OCTANDRIA TRIGYNIA.*

Raii Synopsis, Genus quintum. HERBÆ FLORE IMPERFECTO SEU STAMINEO, (VEL APETALO POTIUS.)

POLYGONUM *Bistorta* caule simplicissimo, monostachyo, foliis ovatis in petiolum decurrentibus. *Linnaei Syst. Vegetab. p. 311.*

POLYGONUM radice lignosa contorta, spica ovata, foliorum petiolis alatis. *Haller. Hist. v. 2. 258.*

COLUBRINA Seu Serpentaria foemina. *Fuschii icon. 774.*

SERPENTARIA mas five Bistorta. *Fuschii icon. 773.*

BISTORTA major radice minus intorta. *Baubin. Pin. 192.*

BISTORTA major radice magis intorta. *Baubin. Pin. 192.*

BISTORTA major *Gerard emac 399. major vulgaris Parkinson 391. Raii Synopsis 147. Hudson. Fl. Angl. 146. Flor. Dan. Ic. 421.*

RADIX perennis, crassitie digiti, plus minusve intorta, externe castanea, interne carnea, fibris et stolonibus plurimis instructa.

CAULIS pedalis aut bipedalis, simplex, suberectus, foliatus, articulatus, (geniculi tumidi) teres, laevis.

STIPULÆ vaginantes, apice membranaceæ, marcescentes, ore obliquo.

FOLIA cordato-lanceolata, undulata, subtus cærulescentia, glabra, inferiora in petiolos decurrentia, superiora amplexicaulia in stipulas definitia.

FLORES spicati, spica oblongo-ovata, densa.

BRACTEÆ membranaceæ, marcescentes, biflores, bivalves, valvula inferiore tricuspidata cuspidate medio longiore quasi aristata, flores pedicellati, pedicellis calyce longioribus.

CALYX five COROLLA subovata, quinquepartita, carnea, laciniis ovatis, obtusis, concavis. *fig. 1. 3.*

STAMINA: FILAMENTA octo, subulata, alba, corollâ longiora, ANTHERÆ biloculares, purpurascens, incumbentes. *fig. 2.*

PISTILLUM: GERMEN triquetrum, sanguineum, STYLIS tres longitudine staminum; STIGMATA parva, rotunda. *fig. 5. 6. 7.*

NECTARIUM. glandulæ rubræ in fundo calycis, *fig. 4.*

SEMEN triquetrum, fuscum, mucronatum, nitens, vernice quasi obductum. *fig. 8.*

ROOT perennial, the thickness of one's finger, more or less crooked, externally of a chestnut, internally of a flesh colour, furnished with numerous fibres and creepers.

STALK from one to two feet high, simple, nearly upright, solid, jointed, (the joints swelled,) round and smooth.

STIPULÆ enclosing the Stalk as in a sheath, at top membranous, withered, the mouth oblique.

LEAVES: the bottom leaves somewhat heart shaped and pointed; waved at the edges, smooth, underneath blueish and continued down the footstalks, the upper leaves embracing the stalk, and terminating in the stipulæ.

FLOWERS growing thickly in a spike, the spike of an oblong oval shape.

FLORAL LEAVES membranous, and withered, containing two flowers and having two valves, the lower valve three pointed, the middle point running out into a kind of arista or beard, the flowers growing on footstalks which are longer than the Calyx.

CALYX OR COROLLA, of an oval shape and flesh coloured, divided into five segments, which are oval, obtuse, and concave. *fig. 1. 3.*

STAMINA: eight FILAMENTS, tapering, white, and longer than the Calyx; the ANTHERÆ bilocular, purplish, and laying across the filaments. *fig. 2.*

PISTILLUM the GERMEN three square, of a deep red colour, three STYLES the length of the Stamina; the STIGMATA small and round. *fig. 5. 6. 7.*

NECTARIUM: several small red glands in the bottom of the Calyx. *fig. 4.*

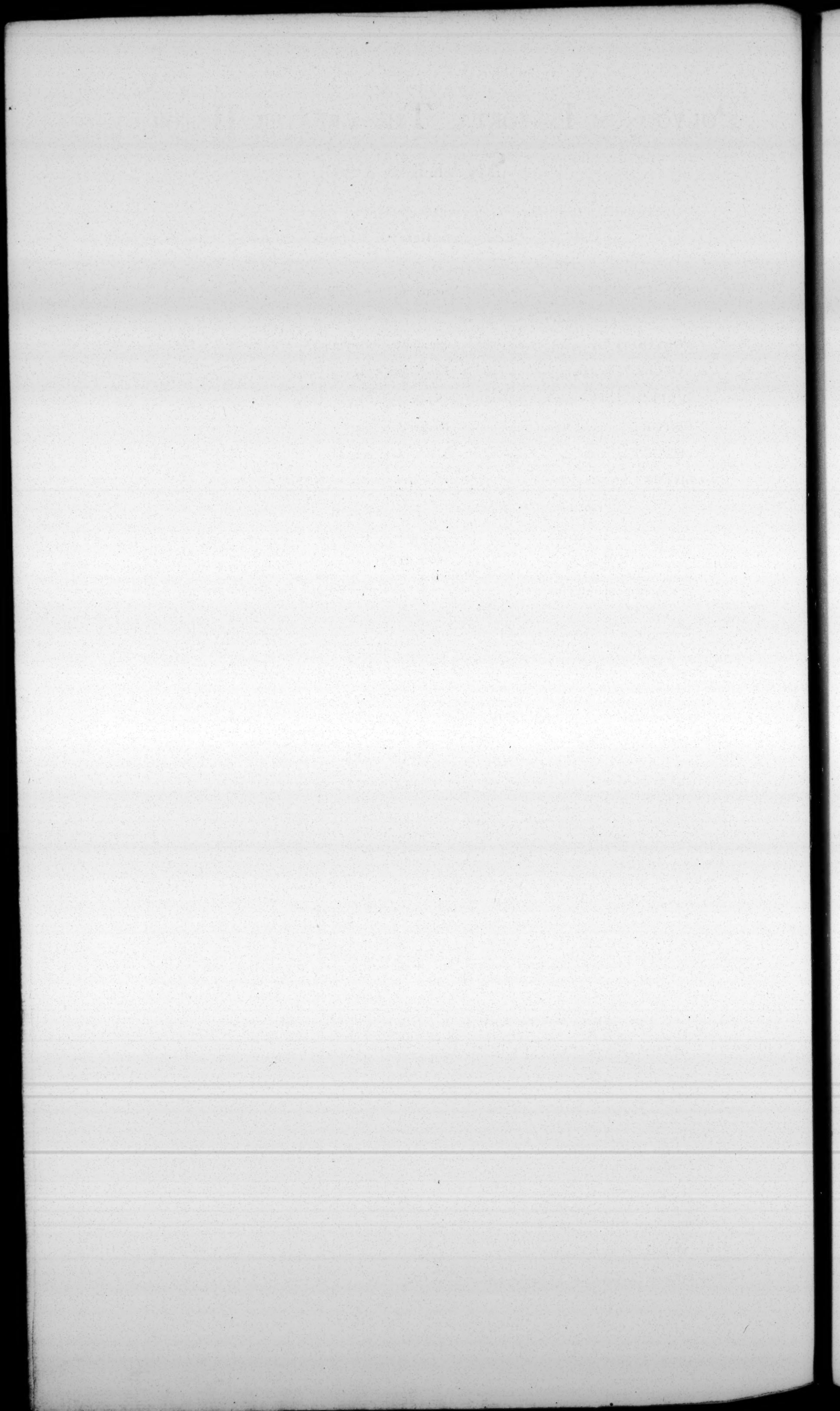
SEED: triangular, brown, pointed, and shining as if varnished. *fig. 8.*

WHEN a Plant not intended to be cultivated, in any respect prevents the growth of one which is the object of Cultivation, such a plant, however beautiful, may with propriety be called a Weed; nor will the elegance or utility of the Bistort, secure it in the estimation of the Farmer, from that appellation.

This Plant generally grows in moist Meadows, and flowers in May and June; when it has once taken root, it propagates very fast, and frequently will form large patches, to the exclusion of a considerable portion of the Grass; nor is it destroyed but with the greatest difficulty. Happily, our Farmers about Town are pretty much strangers to this Plant, as it is met with but rarely. It grows plentifully in a Meadow by the side of *Bishop's Wood* near *Hampstead*, and my obliging Friend Dr. ALLEN informs me he has found it about *Battersea*.

As an astringent Medicine, the Bistort appears to possess considerable virtue, and as such may with propriety be made use of in all cases where astringents are required; but more particularly in long continued evacuations from the Bowels, and other discharges both ferous and sanguineous. It is recommended also to fasten teeth which are loose, and may be used either in powder, infusion, or extract. If it could be procured in sufficient quantity to make it answer, it might well be applied to the purpose of tanning Leather.

In some parts of England the leaves are eat as a Pot-herb.







Polygonum amphibium.

POLYGONUM AMPHIBIUM. AMPHIBIOUS PERSICARIA.

POLYGONUM *Lin. Gen. Pl.* OCTANDRIA TRIGYNIA.

Cal. 6. *Cor.* 5-partita, calycina. *Sem.* 1. angulatum.

Raii Syn. Gen. 5. HERBE FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

POLYGONUM *amphibium* floribus pentandris semidigynis, spica ovata. *Lin. Syst. Vegetab.* p. 312. *Sp. Pl.* 517. *Fl. Suec.* n. 341.

POLYGONUM foliis ovato lanceolatis ciliatis, spicis ovatis. *Haller Hist.* n. 1565.

POTAMOGETON salicis folio. *Baub. pin.* 193.

FONTALIS major longifolia. *Parkins.* 1254.

POTAMOGITON angustifolium. *Ger. emac.* 821.

PERSICARIA salicis folio perennis. *Raii Syn.* Perennial Willow-leaved Arsmart; commonly called narrow-leaved Pondweed. *Hudson Fl. Angl. ed. 2.* p. 169. *Lightfoot Fl. Scot.* p. 207. *Oeder Fl. Dan.* t. 282. *Threlkeld Syn. Stirp. Hibern.*

RADIX perennis, repens, crassitie culmi triticei majoris, e rubro-fulca, ex hortis sive agris difficillime eruta.

CAULIS sesquipedalis et ultra, ascendens, plerumque simplex, teres, fistulosus, saepius ruber, geniculis tumidiusculis.

FOLIA petiolata, cordato-lanceolata, hirsutula, ciliata, rigidula, saturate viridia, saepe maculata, subundulata, alterna, patentia.

STIPULÆ longæ, muticæ, hirsutæ, vaginantes, caulem arcte cingentes.

PEDUNCULI solitarii, seu gemini, hirsuti, rubri, ad unum latus compresso-fulcati, vix terminales.

SPICÆ ruberrimæ, primo pyramidales, demum ovatæ.

CALYX: PERIANTHIUM pedicellatum, quinque-partitum, coloratum, persistens, laciniis ovatis, obtusis. *fig. 1.*

COROLLA nulla.

STAMINA: FILAMENTA quinque, aut sex, fundo calycis inserta, subulata, alba, calyce longiora; ANTHERÆ didymæ; POLLEN album, globosum. *fig. 2.*

PISTILLUM: GERMEN subovatum, rubrum; STYLUS ad medium usque divisus; STIGMATA duo, rotunda. *fig. 3.*

SEMEN ovatum, utrinque compressum, acutum, nitidum, e nigro castaneum. *fig. 4.*

ROOT perennial, creeping, the thickness of a large wheaten straw, of a reddish brown colour, with the greatest difficulty rooted out of gardens or fields.

STALK a foot and a half or more in length, bending upward, generally simple, round, hollow, most commonly of a red colour, the joints a little swelled.

LEAVES standing on footstalks, lanceolate, with a heart-shaped base, slightly hirsute, edged with hairs, harsh to the touch, of a deep green colour, often spotted, somewhat waved, alternate, and spreading.

STIPULÆ long, not fringed with hairs at the extremity, hirsute, forming a sheath, which closely surrounds the stalk.

FLOWER-STALKS growing singly, or two together, hirsute, red, on one side flattened, and slightly grooved, not properly terminal.

SPIKES of the flowers of a bright red colour, at first pyramidal, afterwards ovate.

CALYX: a PERIANTHIUM on a footstalk, divided into five segments, coloured and permanent, the segments ovate and obtuse. *fig. 1.*

COROLLA wanting.

STAMINA: five FILAMENTS inserted into the bottom of the calyx, tapering, white, longer than the calyx; ANTHERÆ double; POLLEN white and globular. *fig. 2.*

PISTILLUM: GERMEN somewhat ovate, and of a red colour; STYLE divided as far as the middle; STIGMATA two, round. *fig. 3.*

SEED ovate, flattened on each side, pointed, glossy, of a dark chestnut colour. *fig. 4.*

The species of *Polygonum* here figured acquires the name of *amphibium* from its growing both on land and in water; in ponds its leaves usually float, whence the ancient botanists, regardless of its fructification, improperly called it a *Pondweed*, thus CASPAR BAUHINE gives it the name of *Potamogeton salicis folio*; RAY very properly corrects this error, and calls it *Persicaria Salicis folio perennis*.

Of the *Persicaria* division of the genus *Polygonum* *Linnaei*, this is the only one that has a perennial root, a character which at once distinguishes it as a species, besides this it has many peculiarities, the leaves are heart-shaped at the base, with the edges fringed with hairs, they are also harsher to the touch than any of the other *Persicaria*'s, especially when the plant grows out of the water, its stipulæ more closely surround the stalk, which has generally two spikes of flowers at its extremity, neither of which are perfectly terminal, these spikes are more pyramidal when young, and of a brighter red colour than any of the species related to it; when it grows in the water the whole plant becomes smoother and is more disposed to blossom; botanists have also observed that the stamina, which when the plant grows on land are longer, are here shorter than the corolla*.

As a weed few plants are more pernicious, Battersea Fields, in which this plant abounds, bear sufficient testimony to the truth of this assertion, as its roots not only creep, but penetrate so deep into the earth that they are seldom or never eradicated; in the drier part of the fields it seldom flowers, but in certain spots, where the water has settled in wet seasons, it flowers abundantly in September.

From its blossoming thus rarely in arable land it fortunately is a more local plant than many of the same genus, the seeds of which are either sown or introduced with manure.

To atone for its mischievous effects on land, it contributes highly to ornament ponds, rivers, and pieces of water; those who wish to cultivate it for this purpose need only plant the roots near the water's edge, the plants will quickly find their way into the water, where they must be secured from water-fowl, who are fond of its seeds.

* This is by no means constant.







Polygonum Persicaria.

1 2 3 4 5 6 7 8 9 10 11 12

POLYGONUM PERSICARIA. COMMON SPOTTED PERSICARIA.

- POLYGONUM *Linnaei Gen. Pl. OCTANDRIA TRIGYNIA.*
Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO, VEL APETALO POTIUS.
 POLYGONUM *Persicaria floribus hexandris semidigynis, pedunculis levibus, stipulis ciliatis, spicis ovato-oblongis erectis.*
 POLYGONUM *Persicaria floribus hexandris digynis, spicis ovato-oblongis, foliis lanceolatis, stipulis ciliatis, Lin. Syst. Vegetab. p. 312. Flor. Succic. p. 130.*
 POLYGONUM *foliis ovato-lanceolatis, subhirsutis, spicis ovatis, vaginis ciliatis. Haller. hist. Helv. v. 2. p. 257.*
 PERSICARIA *mitis maculosa et non maculosa. Bauhin. Pin. p. 101.*
 PERSICARIA *maculosa Gerard. emac. 445. vulgaris mitis seu maculosa. Parkinson. 856. Raii Syn. ed. 3. p. 145. n. 4. Dead or spotted Arimart. Hudson Flor. Angl. p. 147. n. 4. Scopoli Fl. Carniol. p. 279.*

RADIX simplex, fibrosa.

CAULIS erectus, ad basin aliquando repens, pedalis ad tripedalem, ramosus, teres, glaber, ad geniculos sensim incrassatus, saepe rubens: sub geniculis puncta radicalia discernantur quamvis huic speciei non propria.

RAMI alterni, e singulo geniculo prodeuntes, patentes, saepe diffusi.

STIPULÆ vaginantes, liquore viscido saepe repletæ, ciliatæ.

FOLIA lanceolata, subpetiolata, margine nervoque medio subhirsutis, utrinque lavia, maculæ ferrum equinum quodammodo referente saepius notata.

PEDUNCULI laeves.

FLORES spicati, rosei, Spicæ terminales, erectæ, subovatæ.

CALYX: PERIANTHIUM quinquepartitum, coloratum, persistens, segmentis ovatis obtusis, fig. 1, 2.

COROLLA nulla.

STAMINA: FILAMENTA sex fundo calycis inserta longitudine corollæ ANTHERÆ rubentes, fig. 2.

PISTILLUM: GERMEN ovatum, compressum, aut triquetrum, fig. 3, 6. STYLUS ad medium usque bifidus saepe trifidus, fig. 5, 8. STIGMATA duo aut tria subrotunda, fig. 4, 7.

SEMEN unicum, nitidum, aut subovatum, acuminatum, ad unum latus leviter convexum; fig. 9, 11, aut trigonum, fig. 10, 12.

ROOT simple and fibrous.

STALK upright, sometimes creeping at bottom, from one to three feet high, branched, round, smooth, gradually thicker at the joints, often of a red colour: a little beneath each joint some radical points are observable, which however are not peculiar to this species.

BRANCHES alternate, proceeding from each joint, spreading, frequently very much so.

STIPULÆ embracing the stalk, frequently full of a viscid liquid, and terminated by long cilia or hairs.

LEAVES lanceolate, with short foot-stalks, the edge and midrib slightly hairy, smooth on both sides, in general having a large spot on the middle of the leaf somewhat like a horse shoe.

FOOT-STALKS of the flowers, smooth.

FLOWERS growing in spikes, of a bright rose colour, the spikes terminal, upright, of a somewhat oval shape.

CALYX: a PERIANTHIUM divided into five segments, coloured, and persisting, the segments oval and obtuse, fig. 1, 2.

COROLLA wanting.

STAMINA: six FILAMENTS inserted into the bottom of the Calyx, the length of the Corolla; the ANTHERÆ reddish, fig. 2.

PISTILLUM: GERMEN oval and flat, or three-square, fig. 3, 6. STYLE divided down to the middle into two, often into three parts, fig. 5, 8. STIGMATA two or three, and round, fig. 4, 7.

SEED one, shining, either of an oval pointed shape and slightly convex on one side, fig. 9, 11. or three-square, fig. 10, 12.

The very great similarity which exists between the several species of the Polygonums, has occasioned no small degree of trouble to Botanists, in rightly ascertaining the limits of each Species and Variety; a difficulty not to be overcome while Books are consulted more than Nature. Sensible of the truth of this observation, and earnestly desirous of arriving at some certainty on this subject, we have examined a vast number of all the different Species and Varieties of Polygonum which our neighbourhood affords, compared them with one another, sown the seeds, and cultivated many of them; and if we do not deceive ourselves, have reduced some of the more difficult ones to their true Species and Varieties.

As what we relate concerning these plants is no more than the result of the most accurate and repeated investigation, assisted by the microscope, we shall be the less concerned because we differ from Authors of the most respectable Authority.

The writer who gives an account of all the known plants in the universe, cannot be supposed to have the opportunity of being so minute in his enquiries as one who describes the plants of a particular spot, which as they grow are constantly the objects of his attention.

We have ventured to alter Linnaeus's Specific description of this plant, which stands thus.

Polygonum floribus hexandris digynis, spicis ovato-oblongis, foliis lanceolatis, stipulis ciliatis. to

Polygonum floribus hexandris semidigynis, pedunculis levibus, stipulis ciliatis, spicis ovato-oblongis erectis.

We have not made this alteration from an idle desire of differing from so great a Man, whom we truly respect and revere, but solely to make the distinctions betwixt those plants more obvious, and thereby add our mite to the general stock of Botanic knowledge. In specific descriptions, the distinguishing marks should as much as possible be contrasted or opposed to each other, in these plants this does not seem to have been sufficiently attended to. What we have principally in view by altering the Specific description is to distinguish it from the *Polygonum Pensylvanicum* and its varieties, of which there are several, and to which the *Polygonum Persicaria* in its general habit is exceeding nearly allied.

In all the flowers of this Species which we have examined, the Style has been divided just half way down, hence we have called the flowers *Semidigyni*, had it been divided down to the base they would with propriety have been called *Digyni*. In most of the flowers the Style is divided into two parts, and the Germen is a little convex on each side, in some of the flowers the style is divided into three, hence those flowers might be called *Semitrigyni*, and when this is the case the Germen is always triangular. In the *Polygonum Pensylvanicum* the Style is divided nearly to the base, this difference then in the division of the Style, is of considerable consequence in distinguishing the two Species and their varieties from each other.

The footstalks which support the flowers in this Species, are quite smooth, in the *Polygonum Pensylvanicum*, they are beset with a great number of minute glands, which gives them a manifest roughness, and contributes to characterise that Species.

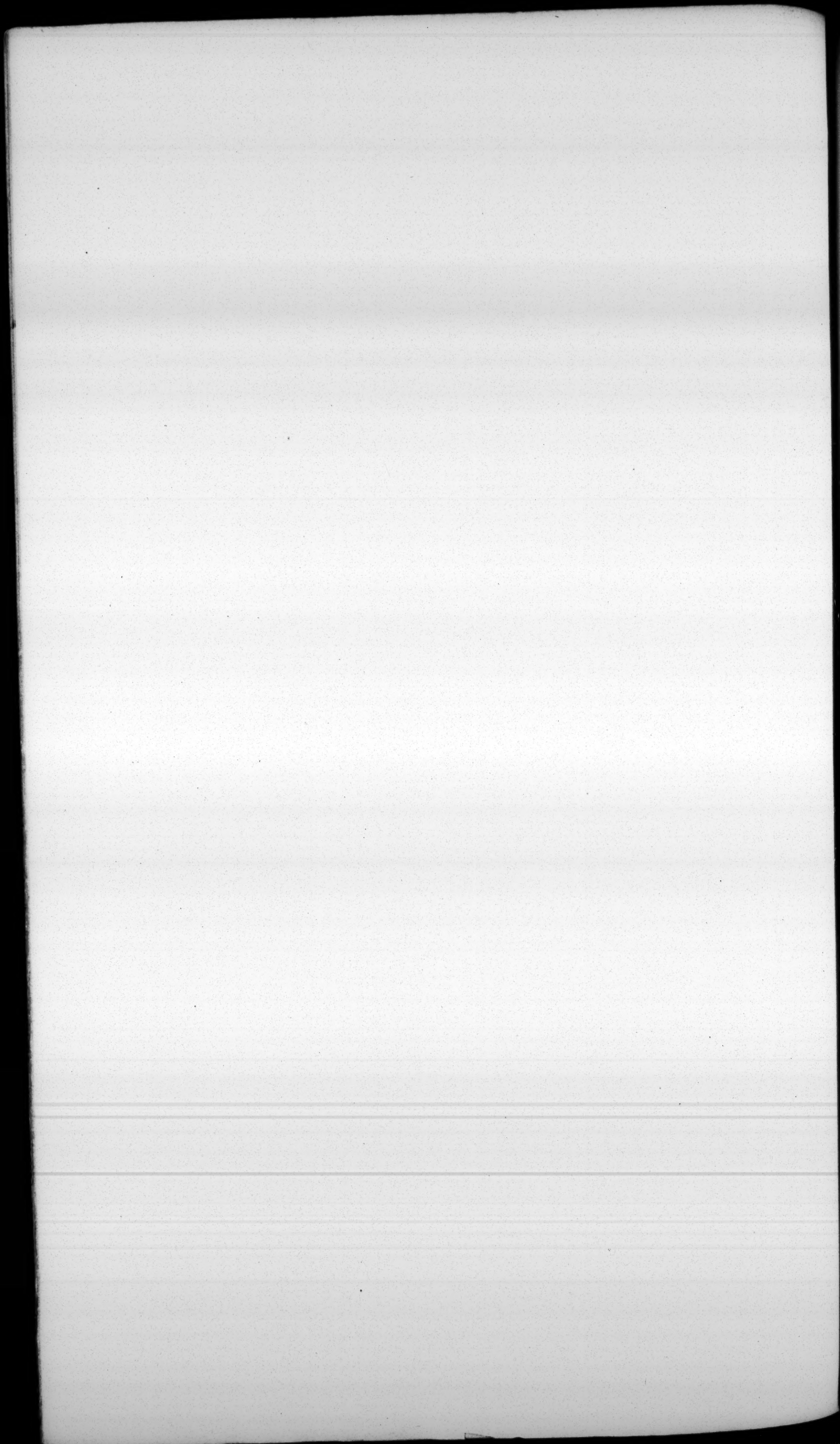
The Stipulæ are furnished with long Cilia or Hairs, particularly towards the top of the plant, in the *Polygonum Pensylvanicum* these are wanting. These two plants likewise differ much in the form of their seeds, of which we shall speak more fully in our account of the latter.

The flowers always grow in upright spikes of an oval shape more or less round; by these two characters this Species is at once distinguished from the *Polygonum Hydropiper*, the spikes of which are *filiform and pendulous*.

The leaves are most commonly spotted, but this is neither constant nor peculiar to this Species, and difference of size only forms the principle variety to which it is subject.

It grows exceedingly common in all our Ditches, and flowers in August and September; its blossoms are beautiful and last a considerable time, was it not so common, it would probably be thought worthy of a place in our Gardens.

No particular virtues or uses are attributed to it.







Polygonum Pennsylvanicum

POLYGONUM PENNSYLVANICUM. PALE - FLOWERED PERSICARIA.

POLYGONUM *Linnaei Gen. Pl. OCTANDRIA TRIGYNIA.*

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO (VEL APETALA POTIUS.)

POLYGONUM floribus hexandris, digynis; stipulis muticis; pedunculis scabris; seminibus utrinque depresso.

POLYGONUM floribus octandris digynis, pedunculis hispidis, foliis lanceolatis, stipulis muticis.
Linnaei Syst. Vegetab. Sp. Plant. p. 519.

PERSICARIA mitis major foliis pallidioribus. *D. Bobarti, Dead Asmart the greater with pale leaves.*
Raii Syn. ed. 3. p. 145. Hudson Fl. Angl. p. 148.

RADIX fibrosa, annua.

CAULIS tripedalis circiter, teres, glaber, fistulosus, ramosus; rami patentes, geniculis maxime incrassatis.

FOLIA ovato-lanceolata, supra glabra, subtus glandulis punctata, sæpe pubescentia, ciliata, nunc maculata nunc immaculata.

PETIOLI subtus hirsuti, scabriusculi.

STIPULÆ basi nervosæ, muticæ.

PEDUNCULI pilis brevibus glanduliferis scabri. *fig. 1.*

FLORES herbacei, pedunculis brevibus infidentes, dense glomerati, spicæ ovatae, seminibus maturis subnutantes.

CALYX: PERIANTHIUM quinquepartitum, laciniis ovatis, obtusis, *fig. 2, 3.*

COROLLA nulla.

STAMINA: FILAMENTA sex, subulata, alba, Corollâ paulo breviora; ANTHERÆ biloculares; POLLEN globosum, *fig. 4.*

PISTILLUM: GERMEN subovatum; STYLUS fere ad basin divisus; STIGMATA duo subrotunda, *fig. 5, 6.*

SEMEN cordatum, acuminatum, compressum, medio depresso, nitidum, *fig. 9, 10,* magnit. nat. *fig. 7, 8,* lente auct. subinde obtuse triquetrum, *fig. 12.*

ROOT fibrous and annual.

STALK about three feet high, round, smooth, hollow, branched, the branches spreading, and the joints very much swelled.

LEAVES of an oval pointed shape, smooth on their upper surface, underneath dotted with small glands, and often downy, edged with little hairs, sometimes with and sometimes without spots.

FOOT-STALKS of the leaves hairy underneath, with a slight roughness to the touch.

STIPULÆ rib'd at bottom, and not terminated by any hairs.

FOOT STALKS of the flowers rough with little glands. *fig. 1.*

FLOWERS of a greenish colour, fitting on short foot-stalks, and growing thickly together; spikes oval, and when the seeds are ripe drooping a little.

CALYX: a PERIANTHIUM divided into five segments, which are oval and obtuse, *fig. 2, 3.*

COROLLA wanting.

STAMINA: six FILAMENTS, tapering, white, a little shorter than the Corolla; ANTHERÆ bilocular; POLLEN globular, *fig. 4.*

PISTILLUM: GERMEN somewhat oval; STYLE divided nearly down to the base; STIGMATA two, roundish, *fig. 5, 6.*

SEED heart-shaped, pointed, flat, with a depression in the middle, shining, *fig. 9, 10,* of its natural size, *fig. 7, 8,* magnified, sometimes obtusely triangular, *fig. 12.*

The plant here figured, is the *Persicaria mitis major foliis pallidioribus, D. Bobarti*, and which is particularly described in the 3d. edition of RAY's *Synopsis*, p. 145: from the consonancy of this description, with that which LINNÆUS had given of the *Polygonum Pensylvanicum*, in the 3d. edition of his *Species Plantarum*, Mr. HUDSON set it down in his *Flora* as that species: and LINNÆUS, in the last edition of his *Systema Vegetab.* as a confirmation of our English *Polygonum's*, being the same with his *Pensylvanicum*, quotes BOBART's descriptive name.

By RAY, LINNÆUS, and HUDSON, then, it is made a distinct species; by HALLER it is considered as a variety of the *Polygonum Persicaria*; but as the Baron forms his judgment from dried specimens that were sent him, in which many of the distinguishing characters of this plant would be unavoidably lost, he seems the most likely to be mistaken: I shall therefore join in making it a distinct species; and I trust shall give such striking additional characters, as will settle this matter beyond dispute.

The true *Polygonum Pensylvanicum* (for there are several varieties of it) has the greatest affinity with the *Polygonum Persicaria*, but differs from it in the following particulars, viz. place of growth, size, stipulæ, leaves, foot-stalks of the leaves, foot-stalks of the flowers, style, and seeds.

While the *Polygonum Persicaria* usually delights to grow by the sides of moist ditches, the *Pensylvanicum* prefers a richer and more luxuriant soil; and so common is it with us about town, that there is scarce a dunghill on which it may not be found: indeed in its attachment to this particular soil, it resembles many of the *Chenopodiums* or *Oraches*. Was it never to occur in other situations, some might be ready to suspect that it was a variety of the *Persicaria* arising from richness of soil; but it is frequently found in other places: and I remember once to have seen the *Polygonum Persicaria*, *Hydropiper*, and *Pensylvanicum*, all growing by the side of a stream within six inches of each other.

In its most common state it is much larger than the *Polygonum Persicaria*, and its joints in particular are more swelled; its Stipulæ are much more strongly rib'd at bottom, and have no Ciliæ; its leaves are broader, the veins somewhat deeper and more strongly marked; the hairs on the edges of the leaves more visible, but particularly so under the foot-stalk of the leaf, to which they give a manifest roughness: in the uppermost leaves the under side is generally dotted with very minute glands, while in the lowermost it is covered with a kind of down: this last character, though contrary to what LINNÆUS asserts, is never seen in the *Polygonum Persicaria*; but in this species it is always more or less predominant. The foot-stalks of the flowers are thickly beset with little yellowish glands, standing on short foot-stalks, which sometimes extend half way down the plant; this appearance never or exceeding rarely occurs in the *Polygonum Persicaria*: the flowers are of a pale or greenish hue, and form thicker and larger spikes than in the *Polygonum Persicaria*, and when ripe are so heavy as frequently to hang down a little: the Style is divided very nearly down to the Germen, while in the *Polygonum Persicaria* it is divided only half way; and this division of the Style, I look upon as one of the most constant and certain criteria of this species: lastly the form of the seeds contributes not a little to the farther ascertaining and fixing it; in the *Persicaria* the seeds are either triangular, or of a pointed oval shape, with a little convexity on each side; in this species it is in general flat, with a depression on each side; it is also larger and broader; now and then a seed occurs forming an unequal triangle, but these are very rare, while the triangular seed is most frequent in the *Polygonum Persicaria*.







Polygonum Pensylvanicum var. caule maculato.

POLYGONUM PENNSYLVANICUM. VAR. CAULE MACULATO.

SPOTTED-STALK'D PERSICARIA.

PERSICARIA latifolia geniculata, caulibus maculatis. D. Rand. Raii Syn. p. 145.

PERSICARIA maculosa procumbens foliis subtus incanis. Raii Syn. p. 146. eadem est planta solo autem minus læto proveniens.

Such then is the difference, which from repeated examinations, I have been able to discover betwixt the *Polygonum Persicaria* and the *Pennsylvanicum* in its most common state; in this state however it does not always occur, but is subject to more Varieties than any of our other *Persicaria's*: without any desire of multiplying them, I make the following, having found them all about London:

- 1 *Polygonum Pennsylvanicum*. var. caule et floribus rubris.
- 2 caule maculato.
- 3 foliis subtus incanis.

The first of these varieties is very often found with the true species on dunghills, as also in corn-fields, and is like it in every respect excepting its colour, the stalks and flowers being red, but not so beautifully bright as those of the *Polygonum Persicaria*.

The second variety here figured, which indeed comes near to a distinct species, grows much in the same situations, and oftentimes with the *Polygonum Persicaria* in the ditches about *St. Georges-fields*, particularly in a large ditch on the right-hand side of the road between the end of *Blackman-Street* and *Newington*, where it is very common in the month of *September*. It not only differs from the other in having its stalk spotted with red, a character which it keeps very constantly, but its spikes are much slenderer, rather more so even than those of the *Persicaria*, of a red colour, but not quite so bright as those of that plant: the under side of the foot-stalk of the leaves is remarkably rough; the little glands on the foot-stalks of the flowers, and the parts of the fructification are similar to those of the true species, but the seeds are smaller: when this variety grows in the rich soil abovementioned, it is full as large as the *Pennsylvanicum* itself; but when it grows in a different soil and situation, as on the watery parts of *Blackbeath* and *Peckham-Rye*, it becomes much smaller, generally has its leaves white underneath, and will certainly be taken for the *Polygonum Persicaria* if not attentively examined: its spotted stalk and the roughness of the foot-stalks of the leaves will however readily discover it.

The third variety, with leaves hoary on the under side, is found here and there in corn-fields and other places, where the soil is not very rich, and is obviously enough distinguished.

Besides these striking varieties, it is subject, like all other plants, to vary in size according to the richness or poverty of the ground on which it grows, and like the *Polygonum Persicaria*, its leaves are sometimes spotted and sometimes not.

This descriptive account will perhaps appear tedious and uninteresting to some; if however by these practical observations, the obscurity which has hitherto dwelt on this difficult Genus, shall in some degree be removed, and the road of investigation made easier to the young Botanist, I shall think my time usefully employed; I would not however wish him to take upon trust what is here advanced, but to examine each plant and its several parts for himself; thus he will become improved, and be able perhaps to throw a still greater light on the subject.

The Sparrow and other small Birds are very fond of the seeds of this species and its varieties: but the Farmer should carefully weed them from his dunghills.







Polygonum Hydropiper.

POLYGONUM HYDROPIPER. BITING PERSICARIA OR WATER PEPPER.

POLYGONUM *Linnaei Gen. Pl.* OCTANDRIA TRIGYNIA.

Cal. o. *Cor.* 5-partita, calycina. *Sem.* 1, angulatum.

Rai Syn. Gen. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

POLYGONUM *Hydropiper* floribus hexandris femidigynis; foliis lanceolatis, undulatis, immaculatis; spicis filiformibus nutantibus.

POLYGONUM *Hydropiper* floribus hexandris femidigynis, foliis lanceolatis, stipulis submuticis. *Linna.* *Syst. Vegetab.* p. 312.

POLYGONUM foliis ovato lanceolatis, spicis florigeris, vaginis calvis. *Haller. hist.* p. 256. n. 1554.

POLYGONUM *Hydropiper.* *Scopoli Fl. Carniol.* n. 467.

PERSICARIA urens seu *Hydropiper.* *Baubin. pin.* 101.

PERSICARIA vulgaris acris seu minor. *Parkinson.* 856.

HYDROPIPER. *Gerard. emac.* 445. *Raii Syn.* p. 144. Water-pepper, Lakeweed or Arfinart. *Hudson Fl. Angl.* p. 148.

RADIX annua, fibrosa.
CAULIS erectus, ramosus, basi nonnunquam repens, pedalis ad tripedalem, geniculis incrassatis, demum ruberrimus.
FOLIA lanceolata, undulata, e viridi flavescentia, glabra.
STIPULÆ ciliatæ.
FLORES spicati, spicæ tenues, demum nutantes.
CALYX: PERIANTHIUM quadripartitum, glandulis minimis adpersum, laciniis obtusis, concavis, fig. 1, 2, 3.
COROLLA nulla.
STAMINA: FILAMENTA sex alba; ANTHERÆ albæ biloculares, fig. 3.
PISTILLUM: GERMEN ovatum; STYLUS bifidus, ad medium usque divisus; STIGMATA duo, rotunda, fig. 4, 5.
SEMEN ovato-acuminatum, castaneum, fig. 6.

ROOT annual and fibrous.
STALK upright, branched, sometimes creeping at bottom, from one to three feet high, the joints swelled, finally becoming very red.
LEAVES lanceolate, waved, of a yellowish green colour and smooth.
STIPULÆ ciliated.
FLOWERS growing in spikes, which are slender and finally drooping.
CALYX: a PERIANTHIUM divided into four segments, sprinkled with very minute glands, the segments blunt and hollow, fig. 1, 2, 3.
COROLLA wanting
STAMINA six white FILAMENTS; ANTHERÆ white and bilocular, fig. 3.
PISTILLUM: GERMEN oval; STYLE bifid, divided down to the middle; two round STIGMATA, fig. 4, 5.
SEEDS of an oval pointed shape, and chefnut-colour, fig. 6.

It is one of the maxims laid down by the Author of that system of Botany which at present is so deservedly held in esteem, and which I trust for the sake of this delightful science will for ever withstand the attempts of all those who frame systems merely to raise themselves into consequence, that in all specific descriptions taste is to be excluded: some may perhaps be ready to treat this as too dogmatical, but when they come to find that both the *Hydropiper* and *Sedum acre*, plants which in general are very hot and biting, sometimes are found insipid, they will readily adopt it as founded in strict propriety.

The present species of *Polygonum* very properly receives its name of *Hydropiper* from its hot and biting taste, which appears to arise from its essential oil dispersed in little cells or glands all over the plant, but more particularly observable on the Calyx with a small magnifier, and which, if tasted, will be found to be more biting than any other part of the plant: this quality which is peculiar to the *Hydropiper*, generally leaves a strong Idea of the plant on the mind of the Tyro: but it is has other more invariable characters whereby it may be distinguished. Notwithstanding its obvious difference from the other plants of this genus, apparent even to such as know very little of Botany, both SCOPOLI and HALLER seem to entertain doubts whether it be really distinct from the *P. Persicaria* and *P. minus*.

The three plants as they usually grow, and I have seen them all three grow together, are certainly distinct enough: but there are some intermediate varieties which bring them very near together, and perhaps justify such suspicions: a variety of the *Hydropiper*, scarce differing in any other respect but its insipidity, I have now and then met with in the same situation as we usually find the true species: from the *P. Persicaria* it differs principally in its leaves, spikes, form and size of its seeds; and first its leaves are of a yellower hue, more undulated, and never marked with any spots; its spikes are slender, and when the seeds are ripe they bend and hang down; the seeds are much larger, more acuminate, and of a chefnut colour; its stipulæ are very evidently ciliated; though HALLER makes their want of cilia one of its striking characters; and LINNÆUS also calls them *submuticæ*, which certainly tends to mislead.

It is the only *Persicaria* that has any pretensions to be an active medicine: given in infusion or decoction it proves diuretic, hence it is made use of in the Dropsy and Jaundice; and the distilled water of it is recommended by BOYLE as efficacious in the Stone and Gravel: LINNÆUS informs us that the plant will dye Woolen cloth of a yellow colour.

Although the herb is so acrid, the seeds are insipid and nutritive.

It is found in great abundance in all those places which lie under water during the Winter, flowers in September, generally a month later than the *P. Persicaria*: in exposed places it becomes very red in going off.







Polygonum aviculare.

POLYGONUM AVICULARE. BIRDS POLYGONUM OR KNOT-GRASS.

POLYGONUM *Linnaei Gen Pl. OCTANDRIA TRIGYNIA.*

Cal. o. Cor. 5-partita, Calycina. Sem. 1. angulatum.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO. (VEL APETALA POTIUS.)

POLYGONUM *aviculare* floribus octandris trigynis axillaribus, foliis lanceolatis, caule procumbente herbaceo. *Linn. Syst. Vegetab. p. 312. Sp. Pl. 519. Fl. Suecic. n. 339.*

POLYGONUM procumbens, foliis linearibus, acutis, floribus solitariis. *Haller hist. n. 1560.*

POLYGONUM *aviculare. Scopoli Fl. Carniol. n. 471.*

POLYGONUM mas vulgare. *Gerard emac. 451.*

POLYGONUM mas vulgare majus. *Parkinson 443.*

POLYGONUM feu Centinodia. *I. Baubin 3. 374. Raii Syn. p. 146. Hudson Fl. Angl. p. 149.*

RADIX annua, simplex, lignosa, multis fibris donata, terram firmiter apprehendens ut extirpatu difficilis sit, sapore adstringente.

CAULES plures, plerumque procumbentes, interdum vero suberecti, dodrantes, ramosi, tenues, striati, laeves, teretes, geniculati, ad geniculos paululum incrassati.

FOLIA quam maxime variantia, ovata, lanceolata aut etiam linearia, alterna, laevia, e vaginis stipularum prodeuntia.

STIPULÆ vaginantes, membranaceæ, albidæ, nitidæ, apice fibrosæ.

FLORES axillares, e vaginis stipularum cum foliis prodeuntia.

CALYX: PERIANTHIUM quinquepartitum, laciniis ovatis concavis, patentibus, dimidio inferiore viridi, superiore albo, sæpe colorato, *fig. 1, 2.*

COROLLA nulla.

STAMINA: FILAMENTA octo corolla breviora; ANTHERÆ flavæ, *fig. 2, auct.*

PISTILLUM: GERMEN triquetrum; STYLUS longitudine staminum, trifidus; STIGMATA tria, rotunda, *fig. 3, auct.*

SEMEN triquetrum, nigricans, intra calycem, *fig. 4.*

ROOT annual, simple, woody, furnished with many fibres, taking strong hold of the earth, so as to be with difficulty pulled up, and of an astringent taste.

STALKS several, generally procumbent, sometimes nearly upright, about nine inches in length, branched, slender, striated, smooth, round, jointed, the joints a little swelled.

LEAVES varying exceedingly, oval, lanceolate, or sometimes even linear, alternate, smooth, proceeding from the sheaths of the Stipulæ.

STIPULÆ forming a sheath round the joints, membranous, white, shining, at top fibrous.

FLOWERS axillary, proceeding with the leaves from the sheaths of the Stipulæ.

CALYX: a PERIANTHIUM divided into five segments, the laciniæ oval, concave and spreading, the lower half green, the upper half white and often coloured, *fig. 1, 2.*

COROLLA wanting.

STAMINA: eight FILAMENTS shorter than the Corolla, ANTHERÆ yellow, *fig. 2, magnified.*

PISTILLUM: GERMEN triangular; STYLE the length of the Stamina, trifid; STIGMATA three, round, *fig. 3, magnified.*

SEED triangular, of a blackish colour, contained within the Calyx, *fig. 4.*

Those plants which have been observed to be eaten by cattle, have often obtained the name of *Grass*, although they have not possessed the least similitude to those which are real Grasses, and the present plant is one of these. Cattle in general are fond of it, and hogs in particular eat it with great avidity. The seeds afford sustenance to many of the small birds, whence it has acquired the name of *aviculare*. The Caterpillar of the **Phalena rumicis* (with us the *Knot-grass Moth*.) I have frequently found feeding on its leaves, although it is by no means confined to this plant: in Sweden, LINNÆUS informs us it feeds on the *Dock (Rumex)* and *Sow-thistle*.

This species of *Polygonum* may be considered as one of our most common plants; it delights to grow in a sandy or gravelly soil, on banks, and by the sides of roads and paths, being of quick growth, and spreading a great deal of ground; it often covers whole fields, that by turning in of cattle, have had their natural coat of grass destroyed.

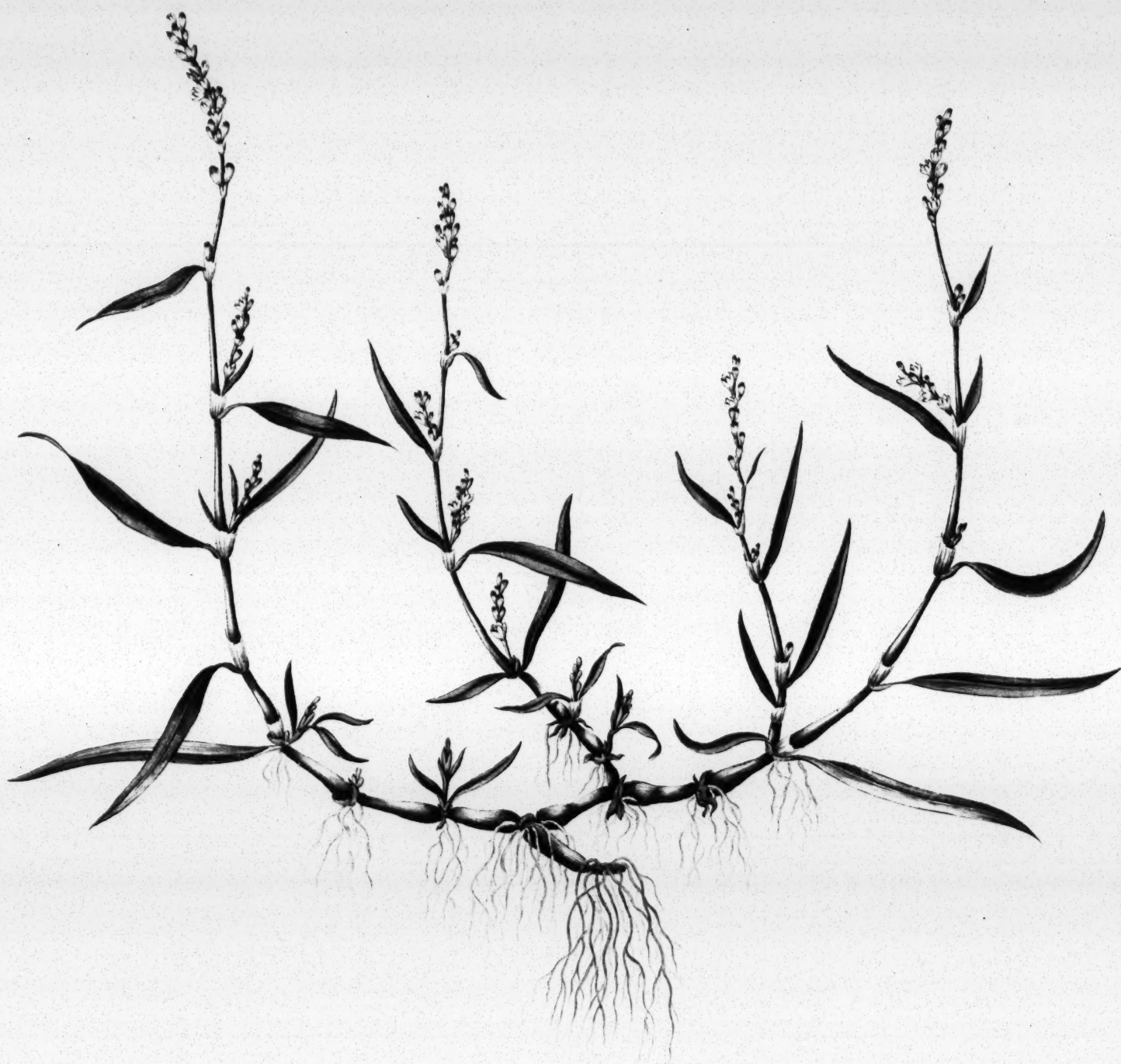
Where a plant of this species happens to grow singly in a rich soil, it will often cover the space of a yard or more in diameter, and the leaves become broad, and large; but when it grows very thick together, by the sides of paths, it is in every respect smaller, and the stalks are more upright. It is subject, like most other plants, to several varieties, and of these are the *Polygonum brevi angustoque folio*, and the *Polygonum oblongo angustoque folio* of C. Baubine.

It has been considered by antient writers, as possessing some medical virtue, particularly as an Astringent, and is by them recommended in Diarrhæas, Dysenteries, Bleeding at the nose, and other Hemorrhages; but in the present practice, its use seems justly superseded by more efficacious medicines.

* *Vid. Linn. Faun. Suecic. p. 313. n. 1200. Røsch. d. 2. Pap. Nat. t. 27. Albin Insect. pl. 22.*







Polygonum minus.



POLYGONUM MINUS. SMALL, CREEPING, NARROW-LEAVED PERSICARIA.

POLYGONUM *Linnaei Gen. Pl.* OCTANDRIA TRIGYNIA.

Cal. 0. *Cor.* 5-partita calycina. *Sem.* 1, angulatum.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALA POTIUS.

POLYGONUM *minus* floribus hexandris, submonogynis, foliis lineari-lanceolatis, caule basi repente.

POLYGONUM *minus* hexandris digynis foliis lanceolatis, stipulis ciliatis, caule divaricato patulo.

Hudson Fl. Angl. p. 148.

POLYGONUM foliis ovato-lanceolatis, glabris, spicis strigosis, vaginis ciliatis. *Haller. hist. p.* 257.
n. 1555.

PERSICARIA minor. *Baubin Pin.* 1014? angustifolia. *Baubin Pin.* 101. 3?

PERSICARIA pusilla repens *Ger. emac.* 446. *Parkinson.* 857. *Raii Syn.* 145. 2. Small Creeping Arsmart.

PERSICARIA angustifolia ex singulis geniculis florens. *Mer. Pin.* 90? *Raii Syn.* 145. 3. Narrow-leaved Lakeweed.

RADIX annua, fibrosa.

CAULES plures, dodrantes, aut pedales, *basi repentes*, demum suberecti, geniculati, (geniculis paululum incrassatis,) laeves, rubicundi.

FOLIA lineari-lanceolata, pene avenia, superne glabra.

STIPULÆ vaginantes, ciliatæ.

SPICÆ tenues, parum nutantes, e singulis geniculis prodeuntes.

CALYX: PERIANTHIUM quinquepartitum, persistens, coloratum, laciniis obtusis concavis, *fig.* 1.

COROLLA nulla.

STAMINA: FILAMENTA sex; ANTHERÆ biloculares, albæ, intra Corollam.

PISTILLUM: GERMEN ovatum aut triangulare; STYLUS filiformis, apice bifidus aut trifidus; STIGMATA duo aut tria rotunda, reflexa, *fig.* 2, 3.

SEMEN aut ovato-acutum aut triangulare, castaneum, magnitudinis fere et formæ feminis Polygoni Persicariæ, *fig.* 4, 5.

N. B. Omnes partes fructificationis lente augentur.

ROOT annual, and fibrous.

STALKS several, about nine inches or a foot high, *creeping at bottom*, then becoming nearly upright, jointed, (the joints somewhat thickened,) smooth, of a reddish colour.

LEAVES *betwixt linear and lanceolate*, scarcely any appearance of veins, on thier upper surface smooth.

STIPULÆ forming sheaths round the joints, and ciliated.

SPIKES slender and a little drooping, proceeding from each joint of the stalk.

CALYX: a PERIANTHIUM divided into five segments, which are obtuse and hollow, *fig.* 1.

COROLLA wanting.

STAMINA six FILAMENTS; ANTHERÆ bilocular, and white, within the Corolla.

PISTILLUM: GERMEN oval or triangular; STYLE filiform, at top bifid or trifid; STIGMATA two or three, round and turned back, *fig.* 2, 3.

SEEDS oval or triangular, of a chestnut colour, nearly of the same size and shape as the Polygonum Persicariæ, *fig.* 4, 5.

N. B. All the parts of the fructification are magnified.

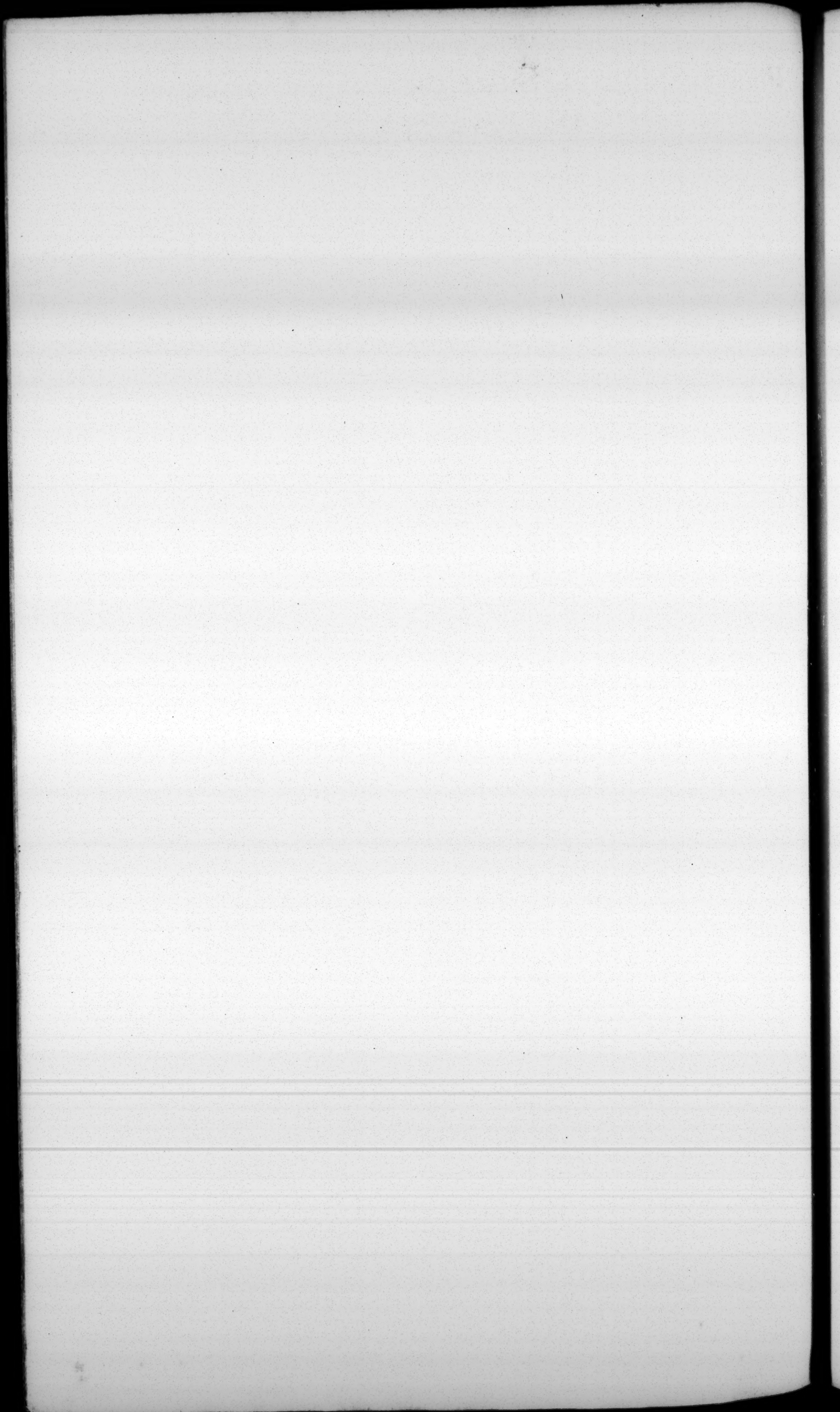
If the opportunity of seeing this plant growing wild had ever occurred to the celebrated Swedish Botanist, he would doubtless have considered it as a distinct species; at present he has placed it in the last edition of his works, the *Systema Vegetabilium*, as a variety of the *Polygonum Persicaria*, probably misled by dried specimens of the plant: those who trust to such are exceeding liable to deceive both themselves and others, particularly in plants whose parts of fructification (from which it is sometimes necessary to draw specific differences) are very minute—those in the living plants are with difficulty enough distinguished, and in dried specimens not to be investigated.

Whoever has observed the appearance which the *Polygonum minus* and *Persicaria* usually put on, must have been struck with the great dissimilarity of the two in their general habits; and if they have taken the pains to examine the parts of fructification, they will, I am persuaded, be convinced that both Mr. RAY and HUDSON are justifiable in making them distinct species.

It differs from the *Polygonum Persicaria* in its size, growth of its stalk, shape of its leaves, form of its spikes, and division of its Pistillum. In height it seldom exceeds a foot, whereas the *Persicaria* often occurs a yard high; the stalk of this species creeps at bottom, in the *Persicaria* it never does: it is true in the *Persicaria*, and most of the *Polygonums*, a number of little roots push themselves out at the joints, which are next the ground; but in this species the stalk at bottom is absolutely procumbent, whilst in the *Persicaria* it is always upright; the leaves are much narrower, approaching rather to linear than lanceolate, and on their upper surface have much less appearance of veins, than in the *Persicaria*; the spikes, instead of being oval or nearly round, and upright, as in the *Persicaria*, are slender and a little drooping: the Pistillum, which is a part of very great consequence in determining many of the species and varieties of this genus, is slightly divided at top only; while that of the *Persicaria* is divided half way down; hence as I have called that species *semidigynous*, I have called this *submonogynous*.

Hitherto I have met with this plant growing wild no where but in *Totbitt-fields, Westminster*, where it makes ample amends for its scarcity elsewhere, being found in the greatest abundance in the watry parts of those fields, along with the *Sisymbrium sylvestre* in the month of September, when it is in full bloom.

At present it does not appear that it has any thing more than its scarcity to recommend it to our notice.







Polygonum convolvulus.

POLYGONUM CONVULVULUS. CLIMBING BUCK-WHEAT.

POLYGONUM *Lin. Gen. Pl.* OCTANDRIA TRIGYNIA.

Cal. 0. *Cor.* 5-partita, calycina. *Sem.* 1. angulatum.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

POLYGONUM *Convolvulus* foliis cordatis, caule volubili angulato, floribus obtusatis. *Lin. Syst. Vegetab.* p. 313. *Sp. Pl.* p. 522. *Fl. Succ.* n. 344.

POLYGONUM caule volubili, foliis sagittatis. *Haller. Hist.* n. 1561.

POLYGONUM *Convolvulus.* *Scopoli Fl. Carn.* n. 469.

CONVOLVULUS minor femine triangulo. *Bauh. Pin.* 295.

HELXINE femine triangulo. *IB.* II. 157.

VOLUBILIS nigra. *Ger. emac.* 863.

CONVOLVULUS minor Atriplicis folio. *Park.* 171.

FEGOPYRUM scandens sylvestre. *Raii Syn.* p. 144. Black Bind-weed. *Hudson Fl. Angl.* ed. 2. p. 171. *Lightfoot Fl. Scot.* 208.

RADIX annua, fibrosa, fusca.

CAULIS volubilis, tortus, ramosus, ramis alternis, fulcro destitutus, procumbens, pedalis, id nactus circa calamos et fruticulos scandit sæpe ad altitudinem usque humanam.

FOLIA petiolata, sagittata, glabra, integerrima, inferne solitaria, superne bina et terna, inferioribus frequenter coloratis.

STIPULÆ parvæ, vaginantes, muticæ.

FLORES racemosi, pedunculati, in fasciculos pendulos dispositi.

RACEMI longi, alterni.

CALYX: PERIANTHIUM quinquepartitum, persistens, laciniis tribus exterioribus majoribus, carinatis, viridibus, margine membranaceis, interioribus petaliformibus, coloratis. *fig. 1.*

COROLLA nulla.

STAMINA: FILAMENTA octo, fundo calycis inserta, brevissima, subulata. ANTHERÆ purpureæ, didymæ. *fig. 3.*

PISTILLUM: GERMEN viride, triquetrum. STYLUS brevissimus, staminibus paulo brevior. STIGMA capitatum, trilobum. *fig. 4.*

PERICARPIUM nullum, calyx semen continens.

SEMEN unicum, trigonum, nigerrimum. *fig. 5.*

ROOT annual, fibrous, of a brown colour.

STALK twining, twisted, branched, branches alternate, when destitute of support, procumbent and about a foot in length, when growing about corn or shrubs often reaching the height of six feet.

LEAVES standing on foot-stalks, arrow-shaped, smooth, perfectly entire, on the lower part of the stalk standing singly, on the upper part two and three together, the lowermost often coloured.

STIPULÆ small, forming a sheath round the stalk.

FLOWERS growing in racemi, standing on foot-stalks, and disposed in pendulous clusters.

FLOWER-BRANCHES long, and alternate.

CALYX: a PERIANTHIUM divided into five segments, and permanent, the three outermost segments, larger, keeled, green and membranous on the edge, the innermost petal-like and coloured. *fig. 1.*

COROLLA none.

STAMINA: eight FILAMENTS fixed into the bottom of the calyx, very short and tapering. ANTHERÆ purple, formed of two lobes. *fig. 3.*

PISTILLUM: GERMEN green, three-cornered. STYLE very short, not quite so long as the stamina. STIGMA forming a little head, composed of three lobes. *fig. 4.*

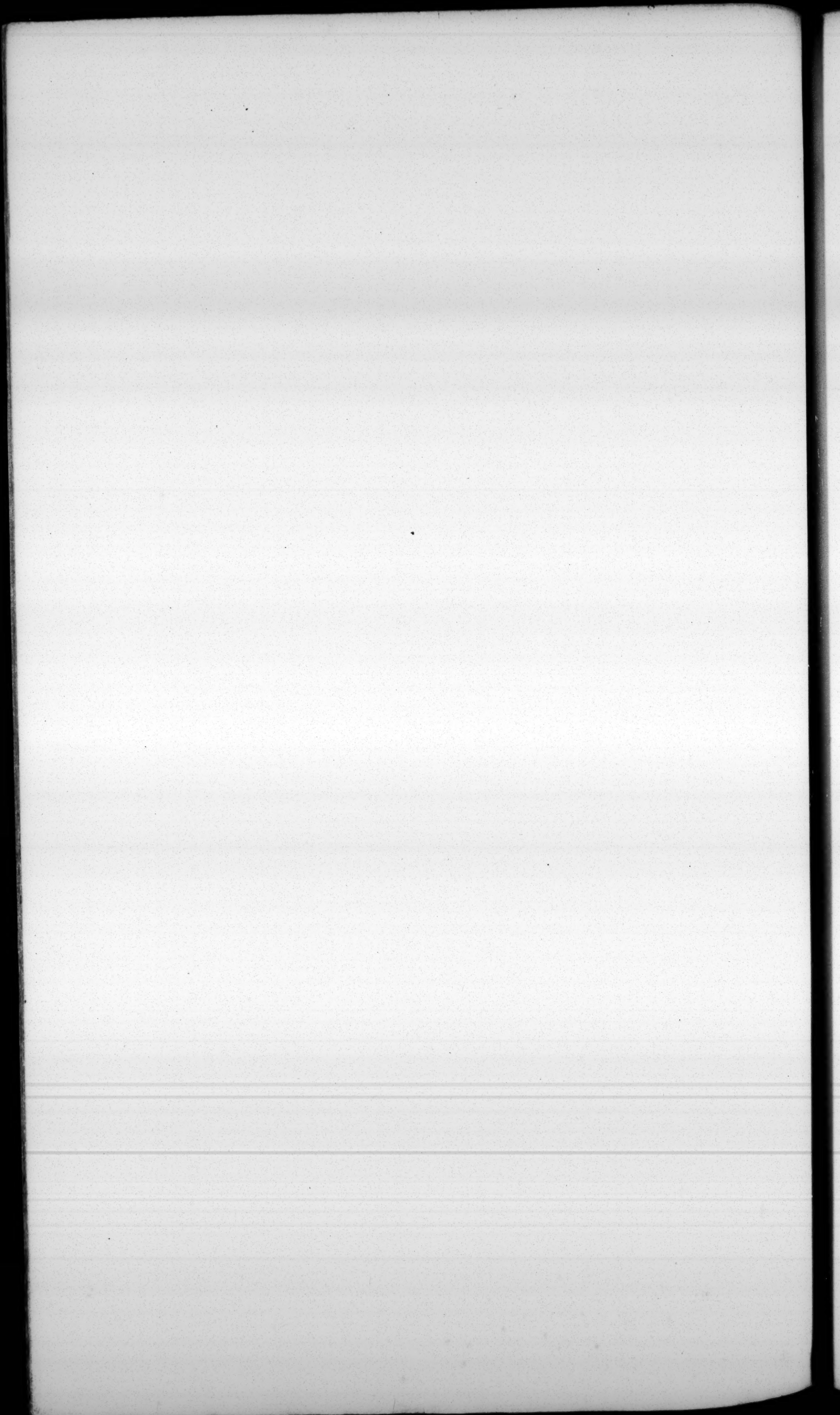
SEED-VESSEL none, the calyx containing the seed.

SEED a single one, three-cornered, very black. *fig. 5.*

Some of the ancient Botanists, inattentive to the fructification, arrange this plant with the *Convolvuli* or *Bind-weeds*. RAY calls it *Fegopyrum scandens sylvestre*, but retains the old *English* name of *Black Bind-weed*. LINNÆUS classes it with the *Polygonum*, or *Knot-grass*, in which genus he also includes the *Bistorta*, the *Perficaria*, and the *Fagopyrum*; he could not, perhaps, scientifically have made more genera of them; yet nature, in all our *English* plants at least, keeps up a strong distinction between them, and as the old established names of *Bistort*, *Perficaria* or *Arsmart*, *Knot-grass*, and *Buck-wheat*, have no tendency in them to mislead, we have thought it better, in the present instance, to continue their use, than to adopt the new-fangled names of *Buck-wheat Knot-grass*, or *Binding Snake-weed*. In its fructification this plant is very similar to the *Buck-wheat*; but differs in having a twining stalk, with which it frequently twists round other plants, and proves injurious to them, especially in gardens and cultivated fields, where it often grows extremely rampant; in poor land it is an humble plant.

It flowers in *July* and *August*.

Its seeds afford excellent food for small birds. One year I observed its foliage, together with that of the *Passion Flower*, very much eaten by the *Ear-wig*, a well known enemy to certain flowers, and no less destructive to *Caterpillars*, and which, like the *Cock-roach*, is principally active under the veil of night.







ADOXA MOSCHATELLINA. TUBEROUS MOSCHATEL.

ADOXA *Linnæi Gen. Pl.* OCTANDRIA TETRAGYNIA.

Cal. 2-fidus, inferus. *Cor.* 4-f. 5-fida, supera. *Bacca* 4-f. 5-locularis, calyce coalita.

Raii Syn. Gen. 16. HERBÆ BACCIFERÆ.

ADOXA *Moschatellina. Linnæi Syst. Vegetab. p.* 315. *Sp. Pl.* 527. *Fl. Suecic. p.* 132.

MOSCHATELLINA *Haller hist.* 429.

MOSCHATELLA *Adoxa. Scopoli. Fl. Carniol. p.* 281.

MOSCHATELLINA *foliis fumarie bulbosæ. I. B.* 111. 206.

RANUNCULUS *nemorofus Moschatella dictus. Parkinson* 226.

RANUNCULUS *nemorum Moschatellina dictus. Bauhin. Pin.* 178.

RADIX CAVA *minima viridi flore. Gerard emac.* 1091. *Raii Syn. p.* 268, Tuberous Moschatel. *Hudson Fl. Angl. ed. 2. p.* 172.

Lightfoot Fl. Scot. p. 209.

Oeder Fl. Dan. ic. 139.

RADIX *perennis, repens, dentata, alba.*

FOLIA *radicalia tria aut quatuor, tri-ternata, incisa, glabra, lobis ovatis, mucronatis, caulina duo brevius petiolata, opposita.*

CAULIS *folia superans, simplex, subtetragonus.*

PEDUNCULUS *quadrangularis, nudus, terminalis.*

CAPITULUM *tetragonum, ex quatuor floribus verticillatis, quinto terminali.*

CALYX: PERIANTHIUM *inferum, sæpius triangulare, planum, persistens, fig. 1.*

COROLLA *monopetala, rotata, plana, quadrifida, aut quinquefida, laciniis ovatis, acutis, calyce longioribus, fig. 2, 3, 4.*

STAMINA: FILAMENTA *octo aut decem, subulata, longitudine calycis: ANTHERÆ flavæ, planæ, orbiculatæ, fig. 5.*

PISTILLUM: GERMEN *subrotundum, calyce cinctum: STYLI plerumque quatuor, simplices, erecti, longitudine staminum, persistentes: STIGMATA simplicia, fig. 6.*

PERICARPIUM: BACCA *globosa, viridis, quadrilobularis, cum calyce coalita, fig. 7.*

SEMINA *solitaria, ovata, compressa, fig. 8.*

ROOT *perennial, creeping, toothed, and of a white colour.*

LEAVES: *radical* leaves commonly three or four, triply ternate, deeply cut in, smooth, and shining; the segments or lobes oval, with a short point: those of the stalk two in number, standing on shorter foot-stalks, and opposite.

STALK *somewhat taller than the leaves, simple, and nearly square.*

FLOWER-STALK *square, naked, and terminating the stalk.*

HEAD *square, from the union of four of the flowers, and terminated by the fifth.*

CALYX: a PERIANTHIUM placed beneath the germen, most commonly triangular, flat, and permanent, *fig. 1.*

COROLLA *monopetalous, wheel-shaped, flat, divided into four or five segments, which are oval, pointed, and longer than the calyx, fig. 2, 3, 4.*

STAMINA: eight or ten FILAMENTS, tapering, the length of the calyx: ANTHERÆ yellow, flat, and round, *fig. 5.*

PISTILLUM: GERMEN *roundish, surrounded by the calyx: STYLES generally four, simple, upright, the length of the stamina, permanent: STIGMATA simple, fig. 6.*

SEED-VESSEL; a round BERRY of a green colour, having four cavities, and united to the calyx, *fig. 7.*

SEEDS *single, oval, and flattened, fig. 8.*

SOME of the antient botanists considered this singular plant as a *Fumaria*, others as a *Ranunculus*, from the appearance of its foliage; but an attention to its fructification, shews it to be a plant altogether *sui generis*.

It is one of the bacciferous plants of RAY, but its berries are rarely produced, and not to be discovered without a nice examination.

It varies much in the divisions of its Calyx, and Corolla, as well as in the number of its Stamina, even in the terminal flower.

In *Charlton Wood* we find it abundantly, flowering in April and May.





Butomus

umbellatus.

Illustra junx. et culpe

BUTOMUS UMBELLATUS. FLOWERING RUSH, OR WATER GLADIOLE.

BUTOMUS *Linnaei Gen. Pl.* ENNEANDRIA HEXAGYNIA.

Raii Gen. 17. HERBÆ MULTISILIQUÆ seu CORNICULATÆ.

BUTOMUS umbellatus. *Lin. Spec. plant.* 532.

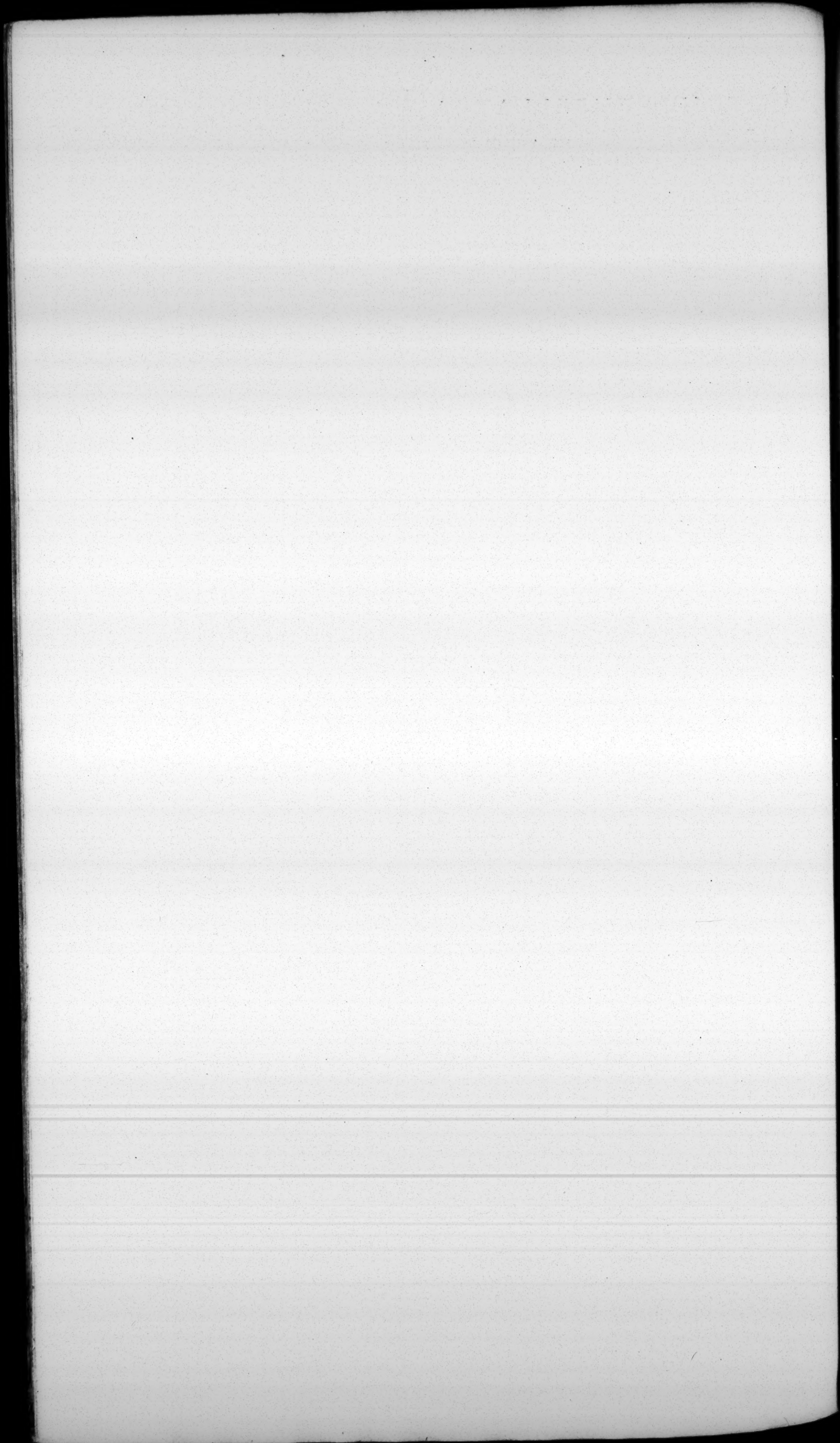
JUNCUS floridus major. *Baubin. pin.* p. 12.

GLADIOLUS palustris Cordi *Gerard. emac.* 29.

Raii Synopsis ed. 3. 273. *Hudson. Fl. Angl.* 152. *Scopoli Fl. Carn. ed.* 2. p. 283. *Halleri hist. pl. Helv. Vol.* 2. 81.

RADIX perennis, alba, tuberculosa, transversa, edulis ? ex inferiore parte radículas prælongas dimittens.	ROOT perennial, white, knobby, transverse, eatable ? from its under side sending down a great number of very long fibres.
SCAPUS pedalis ad orgyalem, teres, glaber.	STALK round, smooth, from one to five or six feet high, according to its place of growth.
FOLIA triquetra, spongiosa, fig. 1. scapo breviora ; ad basin spathacea, apicibus compressis, tortuosis.	LEAVES triangular, spongy, fig. 1. shorter than the stalk, at bottom sheathy, at top flat, and twist- ed.
FLORES in UMBELLA, ad triginta ; pedunculi digitales, e vaginis membranaceis prodeuntes.	FLOWERS numerous, to thirty, each on a single pe- duncle of about a finger's length, forming an UMBELL, surrounded at bottom by withered membranous sheaths.
CALYX. INVOLUCRUM triphyllum, foliolis lanceolatis, marcescentibus.	CALYX. An INVOLUCRUM of three leaves, spear shaped and withered.
COROLLA. PETALA sex inæqualia, subrotunda, concava, rosea, fig. 2, alternis minoribus, acutioribus. fig. 3.	COROLLA. Composed of six PETALS, which are round- ish, concave, and most commonly of a bright red ; fig. 2. the three exterior smaller, and more pointed, fig. 3.
STAMINA. FILAMENTA novem, subulata, fig. 4, 5. ANTHERÆ infidentes, dum pollinem involunt oblongæ, rubræ, quadrifurcatæ, mucrone brevi terminatæ, fig. 6. 7, emissio polline subcordatæ, compressæ, bilamellose, fig. 4. POLLEN flavissi- mum.	STAMINA. Nine FILAMENTS tapering, fig. 4. 5. the ANTHERÆ sitting on the filaments, before the shedding of the Pollen, oblong, reddish, having four grooves, and terminated by a short point, fig. 6. 7. appearing afterwards somewhat heart shaped, flat, and as if composed of two lamellæ, fig. 4. the POLLEN is of a bright yellow colour.
PISTILLUM. GERMEN subtriangulare, latere exteriori latiore, convexo, fig. 9. 10. STYLI sex subulati ; fig. 8. STIGMA canaliculatum.	PISTILLUM. the GERMEN nearly triangular, the outer side broad and roundish, fig. 9. 10. six STYLES, tapering, the STIGMA has a small channel in it, which afterwards spreads into two lips, fig. 11. 12.
PERICARPIUM. CAPSULÆ sex, oblongæ, attenuatæ, erectæ, univalves, apice bilabiata, introrsum dehiscentes, fig. 11. 12.	SEED-VESSEL. Six CAPSULES, oblong, tapering, up- right, of one valve, opening inwards, fig. 11. 12.
SEMINA plurima, minuta, oblonga, fusca, fig. 13.	SEEDS numerous, small, oblong, brown, fig. 13.

WE find this stately Plant in, and by the sides of our watery ditches flowering from July to September. A few years since it was found growing in *St. George's-Fields*, but the improvements making in that, and other parts adjacent to *London*, now oblige us to go farther in search of this and many other curious Plants. About the Island of *St. Helena*, near *Deptford*, and the Marshes by *Blackwall*, it is found in great abundance, although very scarce in many other parts of *Great-Britain*. Fish-ponds, or other pieces of water, would derive great beauty from the introduction of this elegant native of our Isle, the handsome appearance of which did not escape our countryman, old GERARD, who describes it thus : " This Water Gladiole, or Grassy-Rush, of all others, is the fairest and most pleasant to behold, " and serveth very well for the decking and trimming up of houses, because of the beautie and braverie thereof."— That accurate observer RAY describes its nine STAMINA, although in his time they were not viewed in that consequential light which they are in our present Systems of Botany. It is the only Plant of the class ENNEANDRIA which grows wild in this kingdom. If vegetables were classed according to their natural affinities, this would rank among the lillies. Cattle do not eat it. It is so hardy as to bear the cold of Lapland.







Lanscom. Sculp.

Chryso-splenium Oppositifolium. Common Golden Saxifrage.

CHRYSO-SPLENIUM *Linnaei Gen. Pl.* DECANDRIA DIGYNIA.

Cal. 4-f. 5-fidus, coloratus. *Cor.* o. *Caps.* 2-rostris, 1 locularis, polysperma.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

CHRYSO-SPLENIUM *oppositifolium* foliis oppositis. *Lin. Syst. Vegetab.* p. 342. *Sp. Pl.* 569.

CHRYSO-SPLENIUM foliis conjugatis. *Haller. Hist.* No. 1549.

SAXIFRAGA rotundifolia aurea. *Baubin. pin.* p. 309.

SAXIFRAGA aurea. *Ger. emac.* 841. *Parkinson* 425. *Raii Syn.* 158. Golden Saxifrage.

Hudson Fl. Angl. p. 156.

Oeder Fl. Dan. ic. 365.

Lightfoot Fl. Scot. p. 220.

RADICES perennes, fibrosæ, capillares.

CAULES basi repentes, quadrati, tenerrimi, erecti, palmares et ultra, pilis raris hirsuti; ramosi, superne dichotomi.

FOLIA opposita, connata, petiolata, patentia, subrotunda, pilis raris albidis hirsuta, dentatocrenata, subcarnosa, e flavo virefcentia, subtus albida, suprema profundius crenata.

FLORES flavi, sessiles, summis ramis insidentes, corymbosi, fastigiati.

CALYX: PERIANTHIUM quadripartitum, rarius quinquepartitum, patens, flavum, persistens; laciniis ovatis, subæqualibus, fig. 1, 2.

COROLLA nulla.

STAMINA: FILAMENTO octo, (in supremo flore decem aliquando observantur,) subulata, erecta, longitudine fere calycis: ANTHERÆ didymæ, subrotundæ, flavæ, fig. 3, 4.

NECTARIUM squamula crenulata germen cingens, fig. 5.

PISTILLUM: GERMEN inferum, definens in STYLOS duos, subulatos, longitudine staminum: STIGMATA obtusa, fig. 6.

PERICARPIUM: CAPSULA birostris, bipartita, unilocularis, bivalvis, calyce viridi cincta.

SEMINA plurima, minuta, aurantiaca.

ROOTS fibrous, capillary, and perennial.

STALKS creeping at bottom, square, very tender, upright, about four inches in height, beset with a few stiffish hairs, branched, and forked at top.

LEAVES opposite, connate, standing on foot-stalks, spreading, of a roundish figure, beset with a few white stiffish hairs, indented or crenated at the edges, somewhat fleshy, of a yellowish green colour, but whitish underneath; the uppermost leaves more deeply notched.

FLOWERS yellow, sessile, sitting on the tops of the branches, forming a corymbus perfectly flat at top.

CALYX: a PERIANTHIUM divided into four segments, seldom into five, spreading, of a yellow colour, and continuing; the segments ovate, and nearly equal, fig. 1, 2.

COROLLA wanting.

STAMINA: eight FILAMENTS, (in the top flower ten are sometimes observable,) tapering, upright, almost the length of the calyx: ANTHERÆ double, roundish, and yellow, fig. 3, 4.

NECTARY a scale with a crenated edge, surrounding the germen, fig. 5.

PISTILLUM: GERMEN placed below the calyx, ending in two tapering STYLES, the length of the Stamina: STIGMATA blunt, fig. 6.

SEED-VESSEL; a CAPSULE having two beaks or horns, dividing in the middle, of one cavity, and two valves, surrounded by a green Calyx.

SEEDS numerous, minute, of an orange colour.

THE antient botanists shewed no small botanic discernment in considering this plant as a *Saxifraga*; and although in strict propriety it may be necessary to form a different genus of it, yet its affinity must be confessed to be very great.

The part which LINNÆUS calls the *Receptaculum angulatum*, appears to be more properly a kind of *Nectarium*; the Stamina proceed from beneath, not out of it.

As the terminal flower in this plant is rarely divided into more than four segments, and has only eight Stamina, it would perhaps be more proper to place it in the class OCTANDRIA.

It grows in great abundance in the boggy part of *Charlton Wood*; and flowers in April. The seeds ripen in May.

Authors are silent as to its useful or noxious qualities.





Saxifraga oppositifolia.

SAXIFRAGA OPPOSITIFOLIA. PURPLE SAXIFRAGE.

Linn. Gen. Pl. DECANDRIA DIGYNIA.

Cal. 5-partitus. Cor. 5-petala. Caps. 2-rostris, 1-locularis, polysperma.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAXIFRAGA *oppositifolia* foliis caulinis oppositis imbricatis, summis ciliatis. Linn. Syst. Vegetab. ed. 14. Murr. p. 413. Sp. Pl. p. 575. Fl. Succ. ed. 2. p. 142. Hudf. Fl. Angl. ed. 2. p. 180. Purple Saxifrage, Lightfoot, Scot. v. 1. p. 222.

SAXIFRAGA foliis ovatis quadrangulo imbricatis ramis procumbentibus. Linn. Fl. Lapp. 179.

SAXIFRAGA caule repente, foliis quadrifariam imbricatis, cartilagineis ciliatis. Hall. Hist. 980.

SEDUM alpinum ericoides cœruleum. Baub. Pin. 284. et purpurascens. ejusd.

SAXIFRAGA alpina ericoides flore cœruleo. Tourn. Inst. 253. Raii Syn. p. 353. ed. 3. Mountain Heath-like Sengreen, with large purple Flowers.

RADIX perennis, fibrosa, fusca.

CAULES plurimi, procumbentes, repentes, teretes, inferne nudi, sulci, e petris et rupibus sæpe dependentes funiculorum instar.

FOLIA alterne opposita, circa caules floriferos imbricatim dense collocata, subconnata, obovata, concava, subcarnosa, ad margines ciliata, apicibus depressis callosis albidis, furculorum magis remota.

FLORES in summis caulibus sessiles, solitarii, magni, speciosi, primum lacte purpurei, demum cœruleo-ferescentes.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, ciliatis, coloratis, inæqualibus, caulinis perquam similibus, fig. 1.

COROLLA: PETALA 5, subrotunda, unguibus brevibus instructa, fig. 2.

NECTARIUM: substantia glandulosa ad basin germenis nectar copiose fundens.

STAMINA: FILAMENTA 10, erecta, subulata, purpurascencia; ANTHERÆ ovales, compressæ, purpureæ; POLLEN aurantiacum, fig. 3.

PISTILLUM: GERMEN inferum; STYLI duo, subulati, erecti, longitudine flaminum, inferne flavescens, superne rubelli; STIGMATA duo capitata, villosa, rubra, fig. 4.

♂ ROOT perennial, fibrous, of a brown colour.

♂ STALKS numerous, procumbent, creeping, round, below naked, brown, often hanging down like strings from stones and rocks.

♂ LEAVES alternately opposite, those on the flowering stalks closely imbricated, uniting nearly at the base, inversely ovate, concave, somewhat fleshy, fringed on the edges, tops flattened, callous and whitish, those on the young shoots more remotely situated.

♂ FLOWERS on the tops of the stalks, sessile, solitary, large, fleshy, at first of a lively purple colour, finally blueish.

♂ CALYX: a PERIANTHIUM of five leaves, which are ovate, edged with hairs, coloured, unequal, and very like those of the stalk, fig. 1.

♂ COROLLA: 5 roundish PETALS, furnished with short claws, fig. 2.

♂ NECTARY: a glandular substance at the base of the germen, affording much honey.

♂ STAMINA: 10 Filaments, upright, tapering, purplish; ANTHERÆ oval, flattened, purple; POLLEN orange-coloured, fig. 3.

♂ PISTILLUM: GERMEN beneath; STYLES two, tapering, upright, the length of the stamina, below yellowish, above bright red; STIGMATA two little villous red heads, fig. 4.

This species of Saxifrage, the only British one with purple flowers, is found plentifully on the summits of our highest mountains in England, Scotland, and Wales; we have observed it both on Ingleborough and Pennigent in Yorkshire, Mr. LIGHTFOOT on most of the Scotch mountains, and Mr. LHWYD abundantly on Snowdon.

It flowers much earlier than any of the genus, empurpling and enlivening the barren rocks (from which in some situations it hangs pendent to a great length) in April and May; in our gardens near London it blows usually in February and March; when the blossoms first expand they are of a bright purple colour, as they go off they incline to blue; this variation in their colour has induced some Botanists to make two species of it. It is said to vary with white flowers; we do not know that any such variety has been seen in this country.

The plant itself is very liable to vary from situation; when it grows exposed, the whole plant assumes a more compact appearance, the stalks are shorter, the leaves more closely imbricated, the flowers more numerous; this is its natural, and most beautiful state; in shady and more sheltered situations, the stalks shoot to a greater length, the leaves are placed at greater intervals, assume a greener hue, and resemble somewhat those of wild Thyme, in such situations few or no flowers are produced.

No mention is made of this plant by GERARD, or PARKINSON; in their time botanical researches had not been pushed to the extent they have since been: RICHARDSON and LHWYD, in the time of RAY, were active in exploring the mountains of Yorkshire and Wales, it was reserved for Mr. LIGHTFOOT to penetrate further North, to visit the untrodden heights of Caledonia, and gather it.

'Tis only within a few years that this beautiful native* has been cultivated as an ornamental plant; small pots of it are now regularly brought to Covent-Garden-Market, the latter end of February and beginning of March, where they are sold from one to two shillings each.

Though it be a hardy plant, and of ready growth, as most of the Saxifrages are, yet it will not flower in perfection, as we have found by long experience, but under certain management, which is this, about the latter end of March divide a plant, which has filled a pot the preceding year, into many small pieces, taking care that each has a few fibres to it, plant about six of these in the middle of a small pot, filled with a composition of loam and rotten leaves, or bog earth, in equal parts, water them and set them by in a shady place for about a week, then plunge them in an open border, exposed not more than one half of the day to the sun; in dry weather be particularly careful to water them once a day, they require no other attention, but this they will not dispense with; the ensuing spring, each pot will be covered with a profusion of bloom; to continue them in perfection they must be treated thus yearly.

Mr. MILLER recommends a shady situation for this plant, which we have ever found injurious, the shelter of a green-house quickly draws it up and spoils it; it is indeed one of those plants which revolts at all tender treatment.

One of its leaves when magnified becomes a curious object, bearing a great resemblance to those of some of the Fig-Marigolds.

* Pulchræ plantæ elegantiam difficile est aut verbis exprimere aut pencillo. Hall. Hist.







Saxifraga hirculus

SAXIFRAGA HIRCULUS. MARSH SAXIFRAGE.

SAXIFRAGA. Linn. Gen. Pl. DECANDRIA DIGYNIA.

Cal. 5-partitus. Cor. 5-petala. Caps. 2-rostris, 1-locularis polysperma.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAXIFRAGA *Hirculus* foliis caulinis lanceolatis alternis nudis inermibus, caule erecto. Linn. Syst. Vegetab. ed. 14. Murr. p. 413. Sp. Pl. ed. 3. p. 576. Fl. Suec. ed. 2. n. 370. Mantiss. p. 383. Fl. Dan. t. 200.

SAXIFRAGA *Hirculus* foliis alternis lanceolatis integerrimis acutis nudis, caule adscendente folioso. Hudf. Fl. Angl. ed. 2. p. 181.

SAXIFRAGA foliis ellipticis caule unifloro. Hall. Hist. n. 972.

SAXIFRAGIA petalis latissimis luteis lineatis. Hall. Hist. t. xi.

GEUM angustifolium autumnale, flore luteo guttato. J. R. H. 252. Raii. Syn. ed. 3. p. 355.

SEDUM palustre luteum bicorne nardi celticæ foliis. Mor. Hist. Ox. III. 477. f. 12. t. 8. f. 5.

HIRCULUS frificus Dortmanni. Clus. Cur. post. 5.

CHAMÆCISTUS frificus foliis Nardi celticæ. Baub. Pin. p. 466.

CHAMÆCISTUS Frificus. Frisian Dwarf Cistus. Ger. Em. p. 1284. fig. 8. Park. Tb. p. 656. f. 3.

RADIX perennis, fibrosa.

ROOT perennial, and fibrous.

CAULIS subspithamæus, erectiusculus, simplex, foliosus, teres, sub-biflorus, pilis raris flexuosis fuscescentibus vestitus.

STALK about a span high, nearly upright, simple, leafy, round, supporting usually about two flowers covered with brownish hairs, crooked, and few in number.

SURCULI radicales foliosi, procumbentes, radículas prominentes.

SHOOTS from the root leafy, procumbent, putting out fibres.

FOLIA sparsa, inferne magis conferta, suberecta, sessilia, ad basin tuberculo instructa, lineari-lanceolata, obtusiuscula, lævia, integerrima, crassiuscula, pilis raris caulinis simillimis ciliata.

LEAVES growing irregularly, more crowded below, nearly upright, sessile, furnished with a small tubercle at the base, betwixt linear and lanceolate, somewhat blunt, smooth, perfectly entire, thickish, edged with hairs like those on the stalk.

FLORES flavi, majusculi, priusquam aperiuntur nuntantes.

FLOWERS yellow, large, nodding before they open.

CALYX: PERIANTHIUM 5-phyllum, foliolis ovato-oblongis, obtusis, pilis caulium similibus ciliatis, concaviusculis, demum reflexis.

CALYX: a PERIANTHIUM of five leaves, which are ovato-oblong, obtuse, edged with hairs like those on the stalk, somewhat concave, finally reflexed.

COROLLA: PETALA quinque obovata, flava, calyce multo longiora, subnervosa, gibberibus duobus acuminatis ad basin insignita, punctisque numerosis aurantiacis ad medium usque maculata.

COROLLA: five PETALS obovate, yellow, much longer than the calyx, somewhat ribbed, each characterised by two pointed tubercles at its base, and marked with numerous orange-coloured spots from the middle downwards.

STAMINA: FILAMENTA decem, subulata, flava, erecta, alterna breviora, persistentia; ANTHERÆ flavæ, compressæ, biloculares, loculis demum inferne divergentibus.

STAMINA: ten FILAMENTS, tapering, yellow, upright, the alternate ones shortest, continuing; ANTHERÆ yellow, flattened, bilocular, the cavities finally diverging below.

PISTILLUM: GERMEN oblongum, majusculum, bifidum; STIGMATA duo, plana, villosa, infidentia.

PISTILLUM: GERMEN oblong, rather large, bifid; STIGMATA two, flat, villous, sitting on the germen.

PERICARPIUM: CAPSULA præter morem grandis.

SEED-VESSEL: a CAPSULE larger than in the other species of this genus.

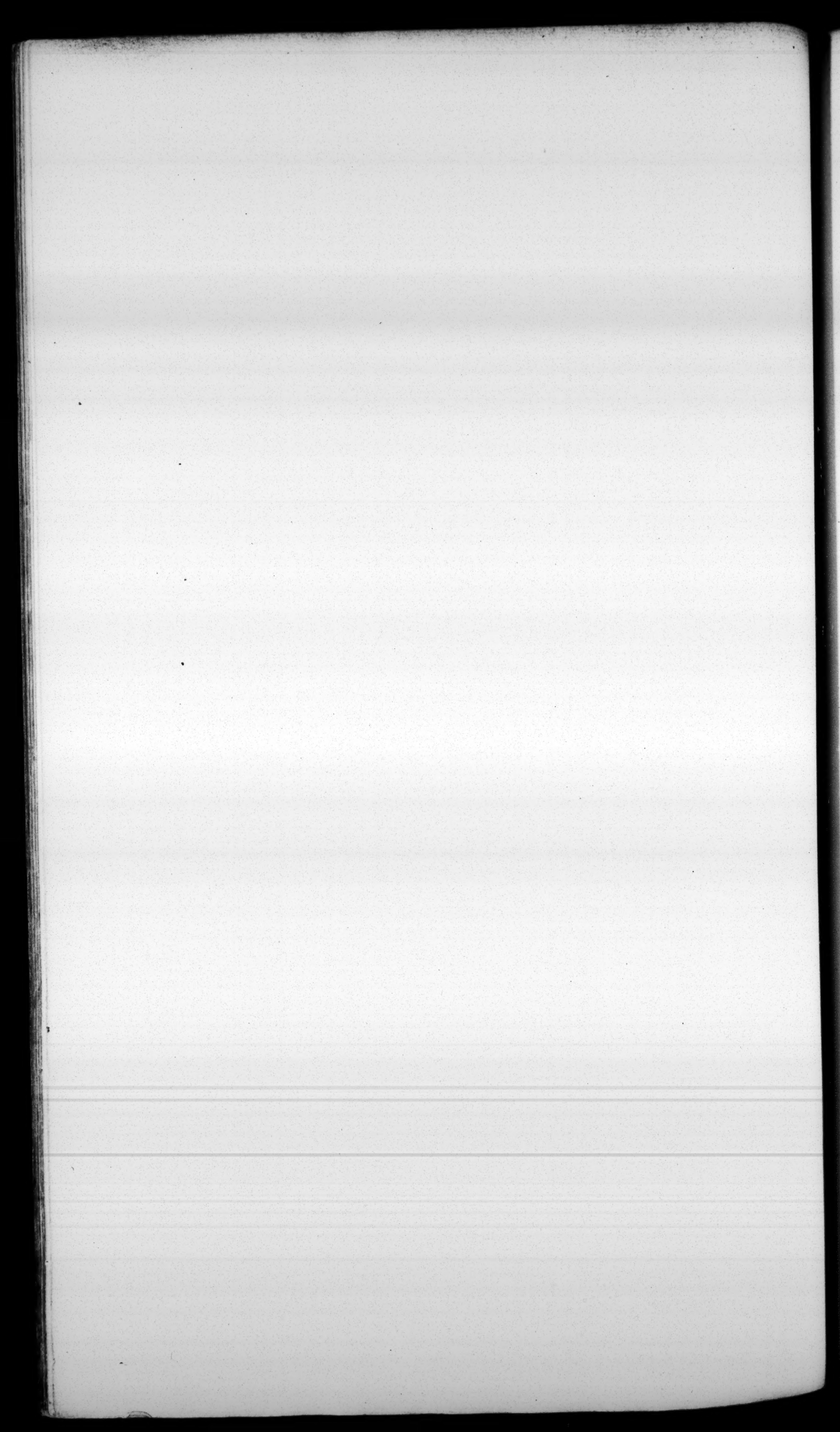
Though the present species of Saxifrage is extremely rare in this country, and altogether local, it is found in various parts of Europe, as in Sweden, Switzerland, Lapland, and Siberia, and always in bogs: according to RAY, it was first discovered on Knutsford-Moor, Cheshire, by Dr. KINGSTON; upwards of twenty years since, Mr. HOWARD, Surgeon, of Knutsford, sent me roots of it, the produce of which I still retain; and lately I received an account of it, accompanied with a drawing, from Mr. BENJAMIN HALEY, Gardener to

EGERTON, Esq. Tatton-Park, near Knutsford.

It is so very different from all the European Saxifrages, that there is scarcely a possibility of its being mistaken for any of them, yet it has been confounded with the *autumnalis*, from which it obviously differs in the superior size and form of its petals, the lower half of which is beautifully spotted with orange, and towards the base of each are two very singular pointed projections (*vid. fig. 1.*) which shews a petal magnified.

Persons not conversant with botanical names, are apt to affix a different meaning to its trivial name (*Hirculus*) to what it imparts; *Hirculus* signifies a little goat, and has been applied by some of the old Botanists to the *Valeriana celtica*, which the present plant resembles in its foliage.

As this plant, when properly treated, blows freely, and is very ornamental, we shall give a few directions for its culture, and those indeed may be comprised in a small compass, it being one of those plants that will live, if not egregiously neglected; all that is necessary, is to place a root of it in a pot of bog earth, and keep the pot in a pan of water, so that the earth shall be constantly moist; in the winter it will be proper to set the pot and pan under a frame, to guard against severe frost; or the plant will thrive very well in the open border (if moist, and formed chiefly of bog earth) and throw out shoots, which will take root and afford abundance of increase; the plant also may be increased by cuttings of the shoots, which will strike root if put under a close glass towards the close of the summer; if the plant be kept in a pot, it will be necessary to renew it once in two or three years.







Saxifraga granulata.

Hillm. Pins. et sculp.

SAXIFRAGA GRANULATA. WHITE SAXIFRAGE.

SAXIFRAGA *Linnæi Gen. Pl.* DECANDRIA DIGYNIA.

Calyx quinquepartitus, *Corolla* pentapetala. *Capsula* birostris, unilocularis, polysperma.

Raii Syn. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAXIFRAGA *granulata* foliis caulinis reniformibus lobatis, caule ramoso, radice granulata. *Linn. Syst.*

Vegetab. p. 344. Fl. Succic. n. 372.

SAXIFRAGA foliis radicalibus reniformibus, obtuse dentatis, caulinis palmatis. *Haller. hist. helv. n. 976.*

SAXIFRAGA rotundifolia alba. *Baubin Pin. 309.*

SAXIFRAGA alba. *Gerard emac. 841.*

SAXIFRAGA alba vulgaris. *Parkinson 424. Raii Syn. 354. Hudson Fl. Angl. p. 159. Oeder. Flor. Dan. 514.*

RADIX. Fibris hujus radice glomeratim adnascuntur plurimi bulbilli, extus rubescences aut flavescentes, intus albi, saporis primum adstringentis, postea amari et ingrati.

CAULIS plerumque simplex, pedalis, subramosus, teres, hirsutus, præsertim ad basin, parum foliosus.

FOLIA *radicalia* petiolis longis, hirsutis, basi latis infidentia, reniformia, hirsutula, lobata, lobis obtusis; *caulina* sicut adscendunt petiolis brevioribus gaudent donec tandem sessilia fiunt, lobi foliorum acutiora evadunt, apicibus rufescentibus.

CALYX: PERIANTHIUM quinquepartitum, hirsutulum, subviscidum, laciniis ovato-acutis apice rufis, *fig. 1.*

COROLLA: PETALA quinque alba, patentia, apice rotundata, basi angustiora et venis flavescens notata, *fig. 2.*

STAMINA: FILAMENTA decem subulata; ANTHERÆ ovatae, compressæ, infidentes, flavæ, biloculares, quorum quinque Pollen primum emittunt, hinc longiores, *fig. 3, 4.*

PISTILLUM: GERMEN subrotundum, inferum, glandulâ saturate viridi cinctum, *fig. 7*; STYLI duo Staminiibus breviores, incurvati, *fig. 5*; STIGMA concavum, *fig. 5*, demum expandens, *fig. 6.*

PERICARPIUM: CAPSULA subovata, birostris, bilocularis, pallide fusca, *fig. 8.*

SEMINA numerosa, minutissima, nigra. *fig. 9.*

ROOT. To the fibres of the root of this plant, adhere in clusters a number of small bulbs, externally red or yellowish, internally white, of a taste at first astringent, afterwards bitter and disagreeable.

STALK generally simple, about a foot high, a little branched, round, hirsute particularly at bottom, furnished with but few leaves.

LEAVES *which grows next the root* placed on long hairy foot-stalks with a broad base, kidney-shaped, slightly hairy, divided into obtuse lobes, those of the *stalk*, as they ascend, are furnished with shorter foot-stalks, till they gradually become sessile, the lobes more acute, and the tips of a reddish colour.

CALYX: a PERIANTHIUM divided into five segments, hirsute and somewhat viscid, the laciniæ of an oval pointed shape, and red at the tips, *fig. 1.*

COROLLA: five PETALS, white, spreading, round at top, at bottom narrower, and striped with yellowish veins, *fig. 2.*

STAMINA: ten FILAMENTS tapering; ANTHERÆ oval, flat, sitting on the Filaments, yellow, bilocular, five of them shed the Pollen first, hence they become longer than the others, *fig. 3, 4.*

PISTILLUM: GERMEN roundish, placed below the Calyx, surrounded by a gland of a deep green colour, *fig. 7*; STYLES, two, shorter than the Stamina, bending inward, *fig. 5*; STIGMA hollow, *fig. 5*, finally expanding, *fig. 6.*

SEED-VESSEL: a CAPSULE of a shape somewhat oval, and pale brown colour, having two beaks or horns, and two cavities, *fig. 8.*

SEEDS numerous, very minute, and black. *fig. 9.*

THE Root of this species of *Saxifrage*, by means of which it is chiefly propagated, affords the young Botanist a very good example of the *Radix granulata*, being composed of a number of little grains or bulbs, connected together in clusters by the fibres; some of these bulbs are solid and entire, not unaptly resembling in shape the bulbs of Onions; others spread open at top, and seem to be composed of a number of squamulæ or lesser bulbs, these are often of a bright red colour: the upper part of the stalk, the foot-stalks of the flowers, and calyx, are covered with a kind of hairs, which terminate in a viscid globule, and which seem to accompany most of the plants of this Genus. The two Styles, which at first are short, with a hollow Stigma, *fig. 5*, quickly grow much longer; the Stigmata spread open, so that they resemble in some degree a pair of tea-tongs, *fig. 6.*

This plant does not occur so frequently with us as many others: according to Mr. HUDSON, it is common about *Wandsworth*; I have frequently gathered it in the fields about *Peckham*, and lately have found it in great abundance much nearer town, viz. in the fields called *Lock-fields*, on the right hand side of *Kent-street Road*, at the back of, and contiguous to Mr. DRIVER's Nursery Gardens: it delights to grow in dry pastures which have a gravelly bottom; flowers in May, and produces its seeds in the month following. When double, it serves, with many other British plants, to ornament the gardens of the curious.

Like many other plants, this seems to owe what little importance it has in medicine to the doctrine of signatures, which has most unphilosophically introduced a number of plants into our *Materia Medica*. As the root bore so great a resemblance to little stones, it was concluded it must be efficacious in the stone and gravel, for which diseases it has been recommended, but there are no accounts of its success to be depended on. If it does possess any medical virtue, it should appear from the taste of the root to be that of an astringent.







Saxifraga tridactylites

SAXIFRAGA TRIDACTYLITES. RUE-LEAVED SAXIFRAGE.

SAXIFRAGA *Linnaei* Gen. Pl. DECANDRIA DIGYNIA.

Cal. 5-partitus. Cor. 5-petala. Caps. 2-rostris, 1 locularis, polysperma.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAXIFRAGA *tridactylites* foliis caulinis cuneiformibus trifidis alternis, caule erecto ramoso. *Linnaei*
Syst. Vegetab. p. 344. *Sp. Pl.* p. 578. *Fl. Suecic.* p. 143.

SAXIFRAGA foliis petiolatis trilobatis caule erecto ramoso et folioso. *Haller. hist. helv.* p. 422. n. 986.

SAXIFRAGA *tridactylites*. *Scopoli. Fl. Carniol.* p. 237. n. 500.

SEDUM *tridactylites* tectorum. *Bauhin. Pin.* 285.

PARONYCHIA rutaceo folio. *Gerard. emac.* 624.

PARONYCHIA foliis incis. *Parkinson.* 556.

SAXIFRAGA verna annua humilior. *I. R. H.* 252. *Raii* Syn. p. 354, Rue Witlow-grafs.

Hudson Fl. Angl. p. 159. ed. 2. 182.

Lightfoot Fl. Scot. p. 224.

RADIX annua, fibrosa.

CAULIS plerumque triuncialis, erectus, teres, ruberrimus, ramosus, pilis glanduliferis vestitus ut ut folia cum calycibus.

FOLIA ima integra, subrotunda, caulina sicut ascendant bipartita, tripartita aut quinquepartita, subcarnosa, rigida, patentia, petiolis foliis longioribus complanatis infidentia, suprema sessilia, bipartita aut simplicia, ovato-lanceolata, suberecta.

FLORES albi, erecti, parvi.

CALYX: PERIANTHIUM monophyllum, quinquepartitum, breve, laciniis ovato-acutis, suberectis, *fig. 1.*

COROLLA: PETALA quinque exigua, laciniis calycis paulo longiora, ovata, obtusa, patentia, basi angusta, immaculata, *fig. 2.*

STAMINA: FILAMENTA decem, subulata: ANTHERÆ subrotundæ, flavæ, *fig. 3.*

PISTILLUM: GERMEN inferum, calyce obtectum, subrotundum, definens in STYLOS duos breves: STIGMATA villosa, *fig. 4.*

PERICARPIUM: CAPSULA subrotunda, bilocularis, birostris, ore aperto, ovato, integro.

SEMINA minima, nigricantia.

ROOT annual and fibrous.

STALK generally about three inches high, upright, round, of a bright red colour, branched and covered (as also the leaves and calyx) with hairs having glands at their extremities.

LEAVES: the bottom leaves entire and roundish; those of the stalk as they ascend, are deeply divided into two, three, or five segments, somewhat fleshy, rigid, and spreading, sitting on flattened foot-stalks longer than the leaves; the uppermost leaves sessile, divided into two segments, or intire, of an oval pointed shape, and nearly upright.

FLOWERS white, small, and upright.

CALYX: a PERIANTHIUM of one leaf, short, and divided into five segments, which are oval, pointed, and upright, *fig. 1.*

COROLLA: five small PETALS, a little longer than the segments of the calyx, oval, blunt, and spreading, narrowed at bottom, and spotless, *fig. 2.*

STAMINA: ten FILAMENTS, tapering towards the top: ANTHERÆ roundish and yellow, *fig. 3.*

PISTILLUM: GERMEN placed below the calyx and covered by it, of a roundish shape, and terminating in two short STYLES: the STIGMATA villous, *fig. 4.*

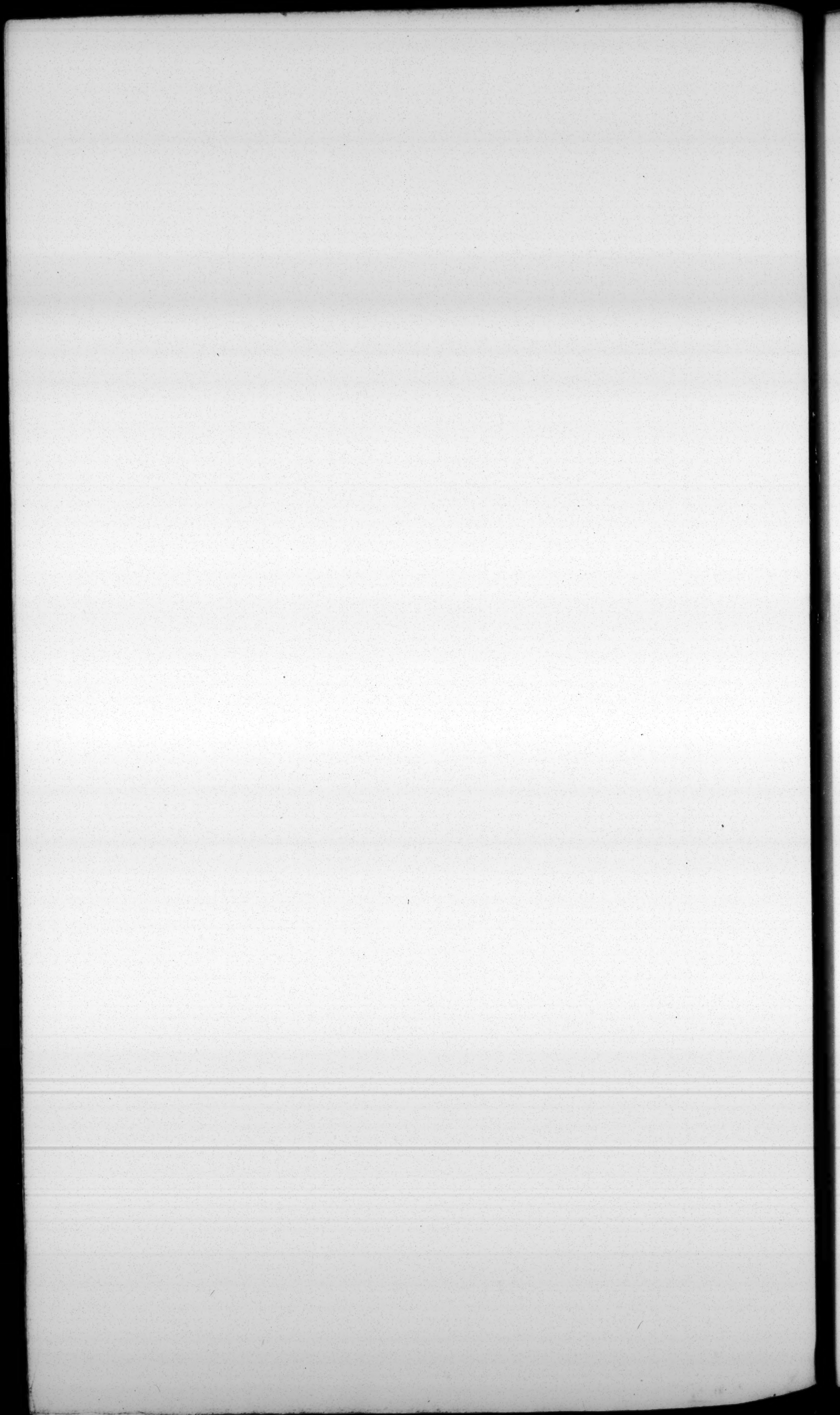
SEED-VESSEL a roundish CAPSULE of two cavities and two beaks, the mouth oval, open, and intire.

SEEDS very minute, of a blackish brown colour.

IN the months of April and May, this little plant succeeds the *Draba verna*, and is no small ornament to the tops of our walls. It grows also on houses, and among rubbish.

It varies in size from one to six inches, or even more in particular situations: the larger it grows, the more branched it becomes, and the more numerous are the divisions of its leaves: on the contrary in its small state, the stalk is frequently simple, and the leaves undivided.

Its medical virtues, if any, are not sufficient to preserve it in the present practice.





Saponaria officinalis



SAPONARIA OFFICINALIS. SOPEWORT.

SAPONARIA *Linn. Gen. Pl.* DECANDRIA DIGYNIA.

Cal. 1-phyllus, nudus. *Petala* 5, unguiculata. *Caps.* oblonga, 1-locularis.

Raii Syn. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAPONARIA *officinalis*, calycibus cylindricis foliis ovato-lanceolatis. *Lin. Syst. Vegetab. p.* 347. *Spec. Pl.* 584.

SAPONARIA foliis ovato-lanceolatis, trinerviis; floribus tubulosis, umbellatis. *Haller hist. helv. n.* 980.

LYCHNIS *officinalis*. *Scopoli. Fl. Carniol. p.* 303. *n.* 510.

SAPONARIA major lævis. *Baubin. pin.* 206.

SAPONARIA *Ger. emac.* 444.

SAPONARIA vulgaris. *Parkinson.* 641.

LYCHNIS Saponaria dicta. *Raii Syn. p.* 339. Common Sopewort. *Hudson Fl. Angl. p.* 339. *Oeder. Fl. Dan. icon.* 543.

RADIX perennis, cortice rubente testâ, profunde descendens, lateque reptans, gemmis vivacibus instructa, hinc tritici repentis æmulus, ex hortis difficillime extirpatur.

CAULES pedales et ultra, erecti, rigidi, teretes, subrubentes, geniculati, superne ramosi, ramis oppositis.

FOLIA ovato-lanceolata, connata, brachiatis opposita, glabra, trinervia, patentia.

FLORES terminales, subumbellati, carnei.

CALYX: PERIANTHIUM monophyllum, tubulosum, basi intropressum, scabriusculum, oblongum, quinque-dentatum, *fig.* 1.

COROLLA: PETALA quinque; ungues angusti, angulati, calyce paulo longiores, *fig.* 3, 4; limbus planus, obcordatus, basi bidentatus, *fig.* 3.

STAMINA: FILAMENTA decem, subulata, longitudine tubi corollæ, alterna unguibus petalorum inserta: ANTHERÆ oblongæ, pallidæ, *fig.* 5.

PISTILLUM: GERMEN oblongum, teretiusculum, transverse rugosum, viride: STYLI duo, subulati, albi: STIGMATA simplicia, *fig.* 6, 7, 8.

PERICARPIUM: CAPSULA oblonga, unilocularis, longitudine calycis, ventricosa, calyce testâ, ore quadridentato, *fig.* 9.

SEMINA plurima, nigricantia, reniformia, superficie granulata, *fig.* 10, 11.

ROOT perennial, covered with a reddish coloured bark, striking deep into the ground, and spreading wide, furnished with living buds, whence, like Couch-Grass, it is with the greatest difficulty rooted out of gardens.

STALKS a foot or more in height, upright, rigid, round, of a reddish colour, jointed, at top branched, the branches opposite.

LEAVES of an oval pointed shape, connate, alternately opposite, smooth, with three ribs, and spreading.

FLOWERS terminal, forming a kind of umbell, flesh coloured.

CALYX: a PERIANTHIUM of one leaf, tubular, pressed in at the base, roughish, oblong, with five teeth, *fig.* 1.

COROLLA: five PETALS, the claws narrow, angular, a little longer than the Calyx, *fig.* 3, 4; the limb flat, inversely heart-shaped, furnished at bottom with two little teeth, *fig.* 3.

STAMINA: ten FILAMENTS, tapering, the length of the tube of the Corolla; the alternate ones inserted into the claws of the petals: ANTHERÆ oblong, of a pale colour, *fig.* 5.

PISTILLUM: GERMEN oblong, roundish, transversely wrinkled, and green: STYLES two, tapering, and white; STIGMATA simple, *fig.* 6, 7, 8.

SEED-VESSEL: an oblong CAPSULE of one cavity, the length of the Calyx, swelling out, covered with the Calyx; the mouth having four teeth, *fig.* 9.

SEEDS numerous, blackish, kidney shaped, the surface granulated, *fig.* 10, 11.

The name of *Sopewort* has been given to this plant, from its answering in a considerable degree, the purposes of soap, forming like it, a lather with water, and taking out spots of grease, &c. from cloth in the same manner; whence it has also been called the *Fullers-herb*.

Some botanists are ready to doubt whether this herb be a native of Great Britain; but the testimonies of GERARD and RAY, appear sufficient to confirm it as such. Being often cultivated in gardens, on account of its beauty, it is no doubt often found among the *refuse of gardens*; and the plants which we have here and there met with in a few places about town, may probably have been of this kind.

It is said naturally to grow in moist situations; and flowers during the months of July, August and September.

There are several varieties of it cultivated in the gardens, from the perfectly white to the deep purple blossom'd, both single and double; as also that singular variety the *Saponaria concava anglica* of BAUHINE and MORISON, in which the leaves surround the stalk, and the blossom becomes monopetalous, but generally split, and destitute of the other parts of the fructification; found originally by GERARD, in a small grove of a wood called the *Spiney*, near *Lichbarrow*, in *Northamptonshire*; where, according to the testimony of MORTON, *hist. nat. agr. North.* it is no longer to be found; and which variety appears more like a *lusus naturæ*, as RAY considers it, than a mule plant, produced betwixt a Gentian and the Sopewort, as LINNÆUS first suggested.

All these varieties are easily cultivated: indeed much care is required, that they do not spread too much in the garden.

A decoction of the dried herb, does not form a lather so well as that of the fresh herb. A decoction of the dried root, makes a lather exactly like a solution of soap, but not so slippery; *Berg. Mat. Med.*

Grease and dirt were washed out with it, but not stains; *idem.*

The root tasted not bitter, but sweet; afterwards warm and biting in the throat; *Rutty Mat. Med.*

The taste of the leaves bitter, mucilaginous, slightly austere, and acrid, and if chewed long, quite acrid: the decoction also bitter, and austere; but not changed by vitriol of iron; *idem.*

The watery infusion of the dried herb, suddenly became of a blackish green colour, by the addition of vitriol of iron; but not the infusion of the root; *Bergius.*

In baths and lotions, it has been made use of to cleanse and beautify the skin; *idem.*

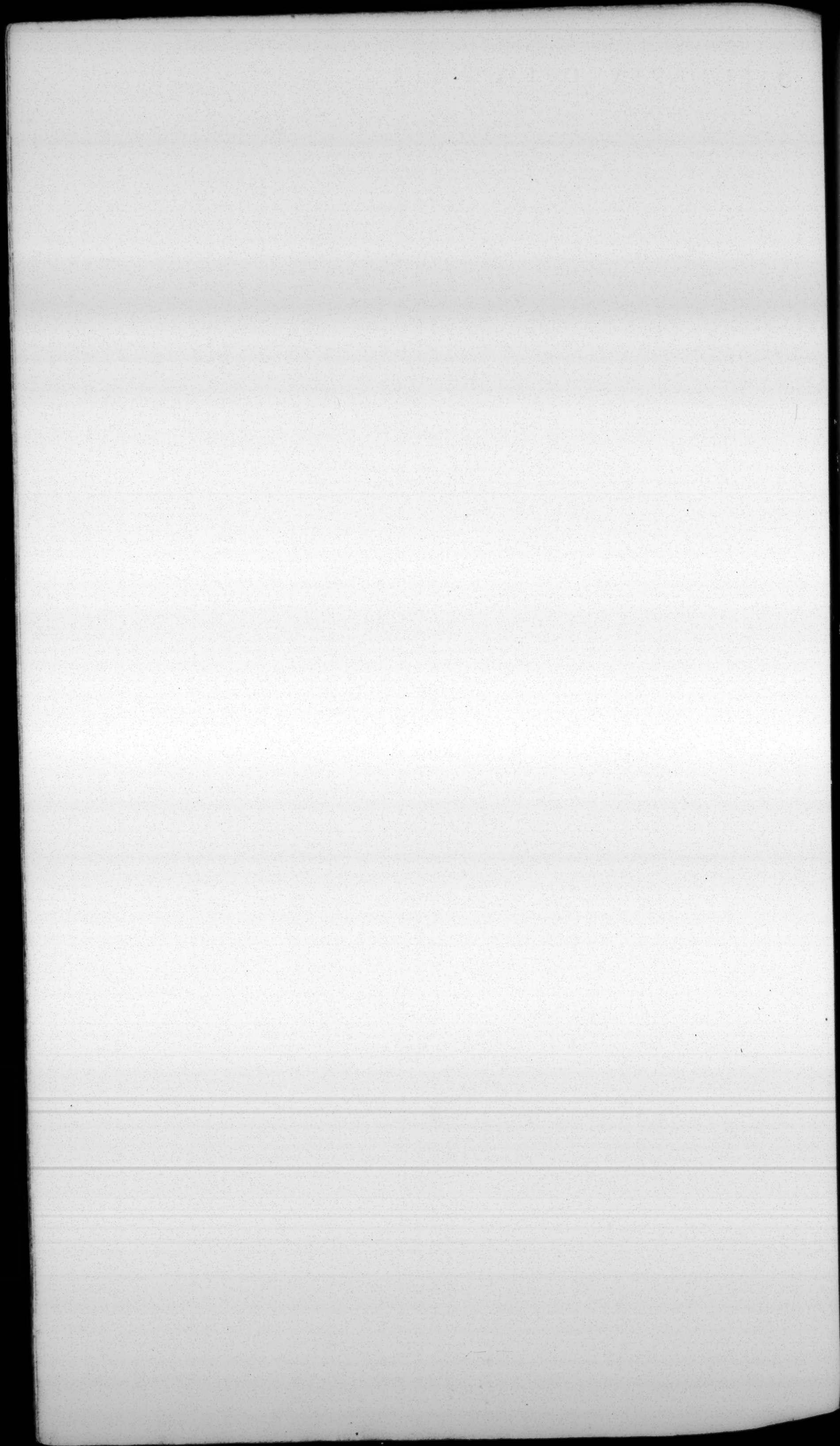
Internally the decoction of the whole herb is fudorific, and promotes the menses; *idem.*

If the decoction be very strong, it proves purgative; *idem, ex Mangeto.*

The leaves and root are made use of in the asthma: half a dram of the root taken with honey, promotes expectoration; *idem.*

In the jaundice, chronic diseases, and obstructions of the viscera, it has been recommended by BOERHAVE; *Haller hist. helv.*

By others it has been recommended in venereal and scrophulous diseases, particularly in the former by STAHL, who deemed it superior to Sarsaparilla; *Newman's Chem. by Lewis.*







Silene anglica.

SILENE ANGLICA. ENGLISH CATCHFLY.

SILENE *Lin. Gen. Pl. DECANDRIA TRIGYNIA.*

Cal. ventricosus. Petala 5-unguiculata: coronata ad faucem. Caps. 3-locularis.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SILENE *anglica* hirsuta petalis emarginatis, floribus erectis, fructibus reflexis pedunculatis alternis.
Lin. Syst. Vegetab. p. 350. Sp. Pl. 594.

SILENE *anglica* hirsuta petalis subintegerrimis, floribus subspicatis pedunculatis alternis erectis, fructibus divaricato-reflexis. *Hudson Fl. Angl. ed. 2. p. 187.*

VISCAGO ceraatii foliis vasculis pendulis Anglica. *Dill. Elth. 417. t. 309. f. 398.*

LYCHNIS sylvestris hirsuta annua, flore minore albo. *Vaill. Paris. 121. t. 16. f. 12.*

LYCHNIS sylvestris flore albo minimo. *Raii Syn. p. 339.* Small Corn Champion, with a very small white flower.

RADIX annua, simplex.

CAULIS plerumque pedalis, et ultra, erectus, teres, hirsutus, viscidus, articulatus, geniculis tumidis, ramosus, in horto culta ramosior, debiliorque evadit, et geniculi magis intumescunt.

RAMI alterni, cauli similes.

FOLIA opposita, connata, lanceolata, subundulata, integerrima, hirsutula, subviscida, punctis prominulis asperula, ad basin pilis longis ciliata.

FLORES albi, minimi, axillares, subspicati, pedunculati.

PEDUNCULI variae longitudinis unguiculares et pollicares, teretes, superne incrassati, visci, primo erecti, dein reflexi, demum seminibus maturis suberecti.

CALYX: PERIANTHIUM monophyllum, tubulosum, quinque-dentatum, dentibus apice rubris, oblongum, sulcis decem profunde exaratum, pilosum, viscidum, persistens. *fig. 1.*

COROLLA: PETALA quinque. Ungues angusti, longitudine calycis. Lamina integra seu emarginata, lateribus saepe involutis, squamula ad basin laminae bifida, erecta. *fig. 2.*

STAMINA: FILAMENTA decem, subulata, alba, ad lentem hirsuta. ANTHERÆ oblongæ, bilobæ, purpureæ. POLLEN album. *fig. 3.*

PISTILLUM: GERMEN viride, nitidum, subconicum; STYLI tres, albi, erecti, villosi, germine breviores. *fig. 4, 5.* Glandula nectarifera ad basin germinis. *fig. 6.*

PERICARPIUM: CAPSULA ovata, calyce tecta, trilocularis, apice sexfariam dehiscens. *fig. 7.*

SEMINA plurima, nigricantia, reniformia, ad lentem aspera. *fig. 8.*

ROOT annual and simple.

STALK about a foot or more in height, upright, round, hirsute, viscid, jointed, the joints swelled, branched; cultivated in the garden, it becomes more branched, weaker, and the joints more swelled.

BRANCHES alternate, like the stalk.

LEAVES opposite, connate, lanceolate, somewhat waved, entire, slightly hairy, and somewhat viscid, roughish, with little prominent points, at the base edged with longer hairs.

FLOWERS whitish, very small, growing from the axæ of the leaves, forming a kind of spike, standing on foot-stalks.

FLOWER-STALKS of various lengths, from half an inch to an inch, round, thickened upwards, viscid, at first upright, afterwards turned downwards, finally, when the seeds are upright, becoming nearly upright.

CALYX: a PERIANTHIUM of one leaf, tubular, having five teeth, which are red at the tips, oblong, marked with ten deep grooves, hairy, viscid, and permanent. *fig. 1.*

COROLLA: five PETALS. Claws narrow, the length of the calyx. Lamina entire, or nicked, the sides often rolled in, the scale at the base of the lamina bifid and upright. *fig. 2.*

STAMINA: ten FILAMENTS, tapering, white, hairy when magnified. ANTHERÆ oblong, formed of two lobes and purple. POLLEN white. *fig. 3.*

PISTILLUM: GERMEN green, shining, somewhat conical. STYLES three, white, upright, villous, shorter than the germen. *fig. 4, 5.* A nectariferous Gland at the base of the germen. *fig. 6.*

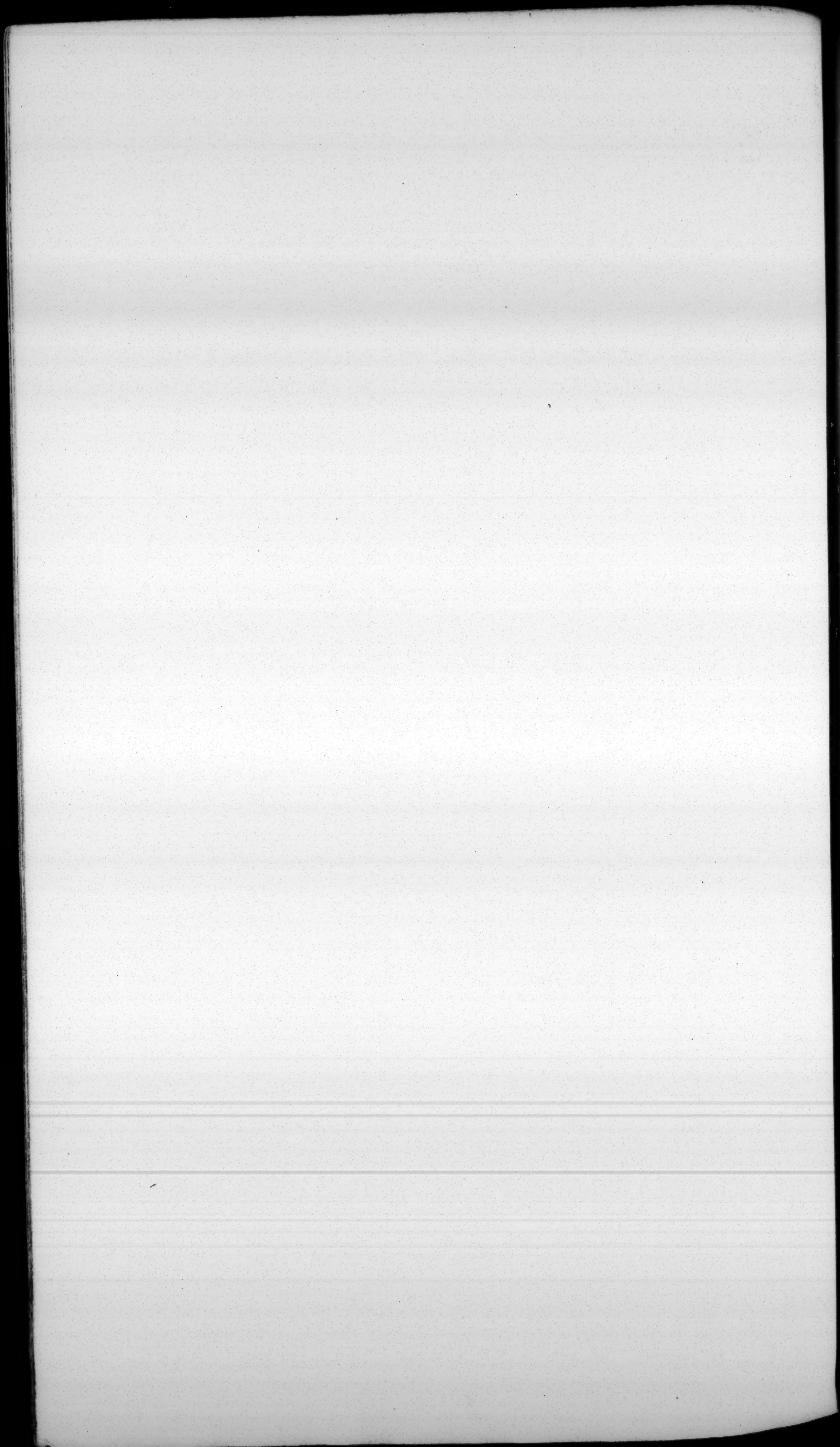
SEED-VESSEL: an ovate CAPSULE, covered by the calyx, of three cavities, opening at top, with six teeth. *fig. 7.*

SEEDS numerous, blackish, kidney-shaped, rough when viewed with a magnifier. *fig. 8.*

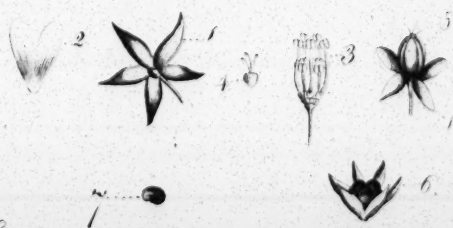
The present, though not a showy plant, may be numbered among the more rare ones in the neighbourhood of London, as well as in many other parts of *Great Britain*; nor does it appear to be common throughout *Europe*: yet, in particular spots, it is found in great plenty, as in the corn-fields about *Coombe Wood*. I have also seen it growing in great abundance in the corn-fields near *Newport*, in the *Isle of Wight*.

It flowers in *July*.

Dillenius gives a figure of it in his *Hortus Elthamensis*, which is too diminutive: his character of *vascula pendula* is not too much to be depended on, since it frequently happens that they are not so.



57



Sicellaria Melesseal

STELLARIA HOLOSTEA. THE GREATER STICHWORT.

STELLARIA *Linnaei Gen. Pl.* DECANDRIA TRIGYNIA.

Cal. 5-phyllus, patens. *Petal.* 5. bipartita. *Caps.* 1-locularis, polysperma.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

STELLARIA *Holostea* foliis lanceolatis ferrulatis, petalis bifidis. *Lin. Syst. Vegetab.* p. 352. *Fl. Suecica.* p. 150.

ALSINE foliis gramineis ciliatis. *Haller hist.* No. 884.

STELLARIA *Holostea.* *Scopoli Fl. Carniol.* p. 314.

CARYOPHYLLUS holosteus arvensis glaber flore majore. *Baubin pin.* 210.

GRAMEN leucanthemum. *Gerard emac.* 47. *Parkinson.* 1325. *Raii Syn.* 346, The Greater Stichwort. *Hudson Fl. Angl.* p. 166.

RADIX tenui et infirma radícula, fummo cespite geniculata reptat, demissis tamen altius fibris.

CAULES plures, dense nascuntur, erecti, pedales, quadrati, geniculati, scabriusculi, fragiles, basi pertenués.

FOLIA lanceolato-acuminata, subconnata, rigidula, inferne carinata, ferrulata, seu potius fetis rigidiusculis ciliata, superiora adscendentia, marginibus revolutis, e cœruleo-virescentia, inferiora crebriora, breviora, deorsum flexa, flava.

FLORES albi, longis petiolis scabriusculis infidentes, e dichotomia caulis prodeuntes.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovato-lanceolatis, concavis, marginatis, lævibus, patentibus, persistentibus, *fig.* 1.

COROLLA: PETALA quinque, magna, bipartita, obcordata, alba, nervosa, basi virescentia, patentia, *fig.* 2.

STAMINA: FILAMENTA decem, alba, subulata, corollâ breviora, alterna glandulâ flavescenti ad basin instructa: ANTHERÆ flavæ, oblongæ, infidentes, *fig.* 3.

PISTILLUM: GERMEN subrotundum: STYLI tres, filiformes patentés: STIGMATA obtusa, *fig.* 4.

PERICARPIUM: CAPSULA subrotunda, membranacea, unilocularis, sexvalvis, *fig.* 6.

SEMINA plerumque quinque aut sex majuscula, aurantiaca, reniformia, pulchre crenulata, *fig.* 7.

ROOT weak, slender and jointed, creeps on the surface of the ground, sending down fibres to a considerable distance.

STALKS several, growing thickly together, upright, a foot high, square, jointed, roughish, brittle, very slender at bottom.

LEAVES narrow and pointed, at their bases slightly uniting, somewhat stiff, underneath keel-shaped, serrated at the edges, or rather edged with very fine stiff hairs or bristles; the upper leaves growing somewhat upright, the edges turning back, of a bluish green colour; the lower leaves more numerous, shorter, bending back, and of a yellow colour.

FLOWERS white, standing on long rough foot-stalks, and proceeding from the forked division of the stalk.

CALYX: a PERIANTHIUM of five leaves, of an oval pointed shape, hollow, edged, smooth, spreading and continuing, *fig.* 1.

COROLLA: five white PETALS, large, divided at top, heart-shaped, rib'd, green at bottom, spreading, *fig.* 2.

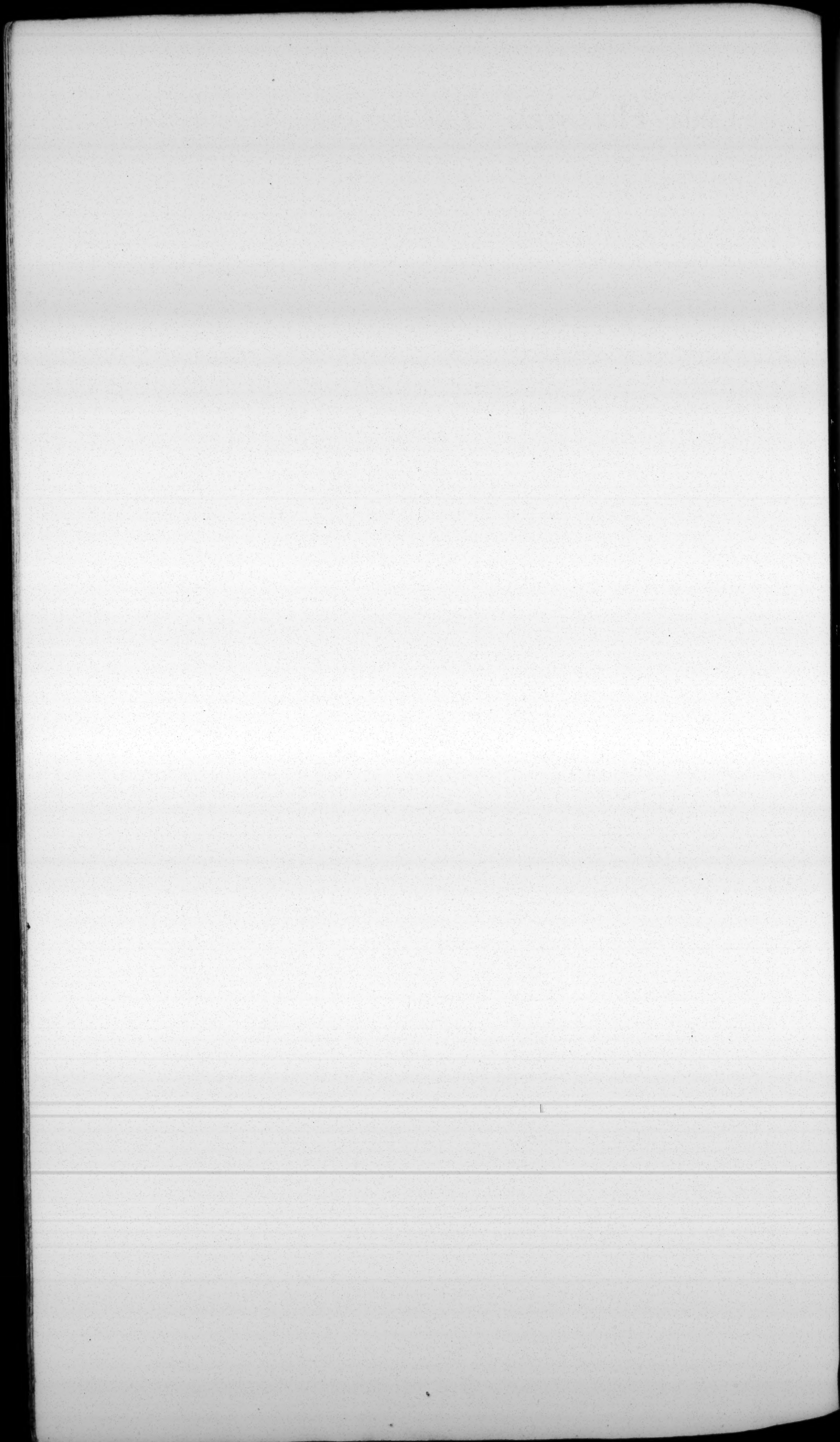
STAMINA: ten white FILAMENTS, tapering, shorter than the corolla, the alternate ones furnished at bottom with a yellowish gland: ANTHERÆ yellow, oblong, fitting on the filaments, *fig.* 3.

PISTILLUM: GERMEN roundish: STYLES three, thread-shaped, spreading: STIGMATA bluntish, *fig.* 4.

SEED-VESSEL a roundish membranous CAPSULE, of one cavity and six valves, *fig.* 6.

SEEDS for the most part five or six, largeish, of a deep orange colour and beautifully notched, *fig.* 7.

THE *Stellaria Holostea* grows very common with us, and with its white delicate blossoms enlivens our woods and banks early in the Summer. Its seeds are very beautiful and like the *Chickweed*, but larger. A very pretty Moth, called by the Aurelians the *least Yellow Underwing*, whose history is unknown, is by them frequently caught hovering over the flowers of this plant when the sun shines strong.







Stellaria uliginosa.

STELLARIA ULIGINOSA. BOG STICHWORT.

STELLARIA *Lin. Gen. Pl. DECANDRIA TRIGYNIA.*

Cal. 5-phyllus, patens. Petala 5 bipartita. Caps. 1-locularis, polypërma.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

STELLARIA *uliginosa* foliis ovato-lanceolatis apice callofis, floribus subpaniculatis lateralibus, petalis calyce brevioribus.

STELLARIA *graminea* var. *γ.* *Lin. Fl. Suec. n. 393. Hudf. Fl. Angl. ed. 2. p. 190.*

STELLARIA *uliginosa. Schreb. Spic.*

ALSINE foliis ellipticis, acuminatis; petalis bipartitis. *Hall. Enum. p. 385. Bochn. Lips. p. 153. n. 374. Aline foliis lanceolatis, petalis bipartitis; petiolis unifloris. Hall. Hist. n. 881.*

STELLARIA (*hypericifolia*) foliis ovato-lanceolatis, integerrimis; pedunculis solitariis. *Wiggers Prim. Holf. p. 34. n. 364. Aline Hyperici folio. Vaill. Par. p. 9.*

STELLARIA (*aquatica*) foliis lanceolatis; petalis bipartitis, calycem longitudine æquantibus. *Pollich. Pal. p. 429. n. 442.*

STELLARIA (*Dilleniana*) foliis lanceolatis integerrimis, caule procumbente. *Leers Herborn. p. 107. n. 331.*

ALSINE *aquatica* folio gratiolæ flore stellato. *Dill. Catal. Gifs. 38 et App. 39.*

ALSINE *aquatica media. Bauh. Pin. 251.*

ALSINE *fontana. Tabern. icon. 712.*

ALSINE *longifolia uliginosis* proveniens locis, *J. B. III. 365. Raii Syn. p. 347. Long-leav'd Water Chickweed.*

RADIX annua, fibrillosa, terræ arcte inhærens.

CAULES plures, palmares ad pedales, diffusi, decumbentes, tetragoni, læves, tenues, flaccidi, disrupti filosi, parum ramosi.

RAMI tenuissimi, furculiformes, sparsi, nonnunquam apice floriferi.

FOLIA opposita, sessilia, connata, ultra semunciam longa, duas trefve lineas lata, subsecunda, subconniventia, ovato-lanceolata, acuta, basi ciliata, apice fusco callosa, ad latera subreflexa, tenera, lævia, pallide viridia.

FLORES laterales, raro terminales, pedunculati, parvi, albi, diametro duarum linearum.

PEDUNCULI ex axillis foliorum, solitarii, bini, terni, simplices aut compositi, ut plures pedicelli ex uno pedunculo communi egrediantur, semipollicares ad pollicares, superne incrassati, florigeri erecti, fructigeri deflexi, bracteis duabus, lanceolato-setaceis, membranaceis, albidis ad basin et divisiones instructi.

CALYX: PERIANTHIUM persistens, pentaphyllum, laciniis patentibus, lanceolatis, acutis, lævibus, viridibus, triis striis obsolete lineatis, *fig. 1.*

COROLLA: PETALA quinque, calyce breviora, approximata, laciniis calycinis incumbentia, stellatim expansa, ad basin usque bipartita, laciniis divaricatis, obovatis, albis, *fig. 2.*

STAMINA: FILAMENTA 10, subulata, alba, alterna breviora; ANTHERÆ subrotundæ, flavescen-
tes, *fig. 3.*

PISTILLUM: GERMEN subrotundum, glandulis quinque cinctum; STYLI tres, capillares, patentes, STIGMATA obtusa, alba, *fig. 4.*

PERICARPIUM: CAPSULA ovata, unilocularis, sex-
valvis, *fig. 5.*

SEMINA plurima, minuta, subrotunda, compressa, rugosa, rufa, *fig. 6.*

ROOT annual, finely fibred, sticking strongly to the earth.

STALKS numerous, from a hands-breadth to a foot in length, loosely spread, decumbent, four-cornered, smooth, slender, weak, when broken asunder stringy, a little branched.

BRANCHES very slender, shoot-like, placed irregularly on the stalk, sometimes flowering at top.

LEAVES opposite, sessile, united at bottom, above half an inch in length and two or three lines in breadth, frequently growing to one side of the stalk, and bending towards each other so as almost to touch at the points, ovato-lanceolate, pointed, fringed at the base, tips brown and callous, turned back a little at the sides, tender, smooth, and of a pale green colour.

FLOWERS lateral, seldom terminal, standing on footstalks, small, white, about two lines in diameter.

FLOWER-STALKS proceeding from the bosoms of the leaves, singly, or in two's and three's, simple or compound, several partial flower-stalks proceeding from one common peduncle, half an inch to an inch in length, thickened above, the flower-bearing ones upright, the fruit-bearing ones turned downwards, furnished with two very minute, pointed, membranous whitish floral leaves at the base and divisions.

CALYX: a PERIANTHIUM of five leaves, permanent, the segments spreading, lanceolate, pointed, smooth, green, marked with three lines faintly prominent, *fig. 1.*

COROLLA: five PETALS shorter than the Calyx, approximating, lying on the segments of the Calyx, expanded in a star-like form, divided quite to the base, the segments spreading wide asunder, inversely ovate and white, *fig. 2.*

STAMINA: ten FILAMENTS, tapering, white, the alternate ones shortest; ANTHERÆ nearly round and yellowish, *fig. 3.*

PISTILLUM: GERMEN roundish, surrounded by five glands; STYLES three, very fine, and spreading; STIGMATA obtuse and white, *fig. 4.*

SEED-VESSEL: an ovate CAPSULE, of one cavity, and six valves, *fig. 5.*

SEEDS numerous, minute, roundish, flattened, wrinkled, of a reddish brown colour, *fig. 6.*

Most of the old Botanists regarded this plant as a distinct species, and the observations of the moderns have shewn that their opinion was well founded; they considered it indeed as an *Alfine*, and this also was a further proof of their discernment, for the *Alfine media* and our plant are undoubtedly of the same genus, inasmuch as they agree exactly in the parts of fructification, number of stamina excepted, and that is found to vary in the *Alfine media*: the *Cerastium semidecandrum* is admitted to be of the same genus as the others, though it has only five stamina; the *Alfine* therefore should be removed to *Stellaria*, and called *Stellaria Alfine*; the *Cerastium aquaticum* ought also to be placed with them, as it agrees better with the character of a *Stellaria*, than a *Cerastium*, especially in its seed-vessel, a part which is of the first consequence in determining the genus, and which LINNÆUS has not sufficiently attended to.

LINNÆUS, in general too cautious in making species, considers our plant as a variety of *Stellaria graminea*; but as it differs from that plant in so many essential points, we conclude he never had an opportunity of fairly examining and contrasting the two in a living state: DILLENIUS has minutely described it, especially the flowers, but neither he or any other author that we are acquainted with, has noticed the callous tips of the leaves, though very conspicuous, nor the particular situation of the leaves respecting the stalk and each other, (see the description.)—DOODY, as appears from RAY's *Synopsis*, had the merit of observing that the flowers were produced ex alis foliorum, which is certainly one of the most striking characters of the species, but this is not produced in the common way; the fact is, the flowers would be terminal, did not a new kind of shoot or furculus, rather than a continuation of the stem, proceed from the panicle.

The petals being so deeply divided, and spreading so far asunder, has occasioned some mistakes in the descriptions which authors have given of the flowers: J. BAUHINE describes them with ten petals; VAILLANT on the contrary, with five, and those undivided; this author, assuming to himself a superior degree of discernment, complains that MORISON and RAY had described them as divided almost to the base; a more minute inspection would have taught him that they were not such superficial observers as he imagined.

It is a very common plant in wet springy meadows, and especially on the edges of the ditches, which intersect such meadows, but cannot be said to be truly a bog plant, like *Anagallis tenella*, or *Drosera*.

It flowers from *June* to *August*.





Veronica serpyllifolia.

ARENARIA SERPYLLIFOLIA. THYME-LEAVED CHICKWEED.

ARENARIA *Lin. Gen. Pl.* DECANDRIA TRIGYNIA.

Cal. 5-phyllus, patens. *Petala* 5 integra. *Caps.* 1-locularis, polysperma.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

ARENARIA *serpyllifolia* foliis subovatis acutis sessilibus, corollis calyce brevioribus. *Lin. Syst. Vegetab.* p. 353. *Sp. Pl.* p. 606. *Fl. Suec.* n. 398.

STELLARIA *serpyllifolia.* *Scopoli. Fl. Carn.* n. 544.

ALSINE foliis ovato-lanceolatis, subhirsutis, petalis calyce brevioribus. *Haller Hist.* n. 875.

ALSINE minor multicaulis. *Baub Pin.* 250.

ALSINE minima. *Ger. emac.* 612. *Raii Syn.* 349. The least Chick-weed. *Hudson. Fl. Angl.* p. 191. *Lightfoot Fl. Scot.* p. 230.

RADIX annua, fibrosa, albida.	ROOT annual, fibrous, and whitish.
CAULES plerumque plures, palmares, suberecti, teretes, pubescentes, geniculati, ut plurimum simplices, apice dichotomi, ramis bifidis.	STALKS for the most part numerous, about four inches high, nearly upright, round, downy, jointed, for the most part simple, dichotomous at top, branches bifid.
FOLIA opposita, ovata, acuta, sessilia, rigidula, hirsutula, ad lentem ciliata, nervo medio subtus conspicuo, inferioribus crebrioribus.	LEAVES opposite, ovate, pointed, sessile, a little rigid and slightly hirsute, visibly ciliated when magnified, the mid-rib conspicuous on the under side, the lowermost leaves growing thickest together.
FLORES albi, pedunculati.	FLOWERS white, standing on foot-stalks.
PEDUNCULI teretes, foliis longiores, uniflori, e dichotomia caulis, ad unum latus inclinati, suberecti.	FLOWER-STALKS round, longer than the leaves, supporting one flower, proceeding from the forking of the stalk, inclined to one side, and nearly upright.
CALYX: PERIANTHIUM pentaphyllum, foliolis lanceolatis, acuminatis, hirsutulis, carinatis. <i>fig. 1.</i>	CALYX: a PERIANTHIUM of five leaves, which are lanceolate, tapering to a point, somewhat hairy and keeled. <i>fig. 1.</i>
COROLLA: PETALA quinque, alba, ovata, obtusa, calyce duplo fere breviora. <i>fig. 2.</i>	COROLLA: five petals, of a white colour, ovate, obtuse, about half the length of the calyx. <i>fig. 2.</i>
STAMINA: FILAMENTA decem alba, capillaria, longitudine corollæ. ANTHERÆ subrotundæ, albæ, <i>fig. 3.</i>	STAMINA: ten FILAMENTS, white, very fine, the length of the corolla. ANTHERÆ roundish and white. <i>fig. 3.</i>
PISTILLUM: GERMEN viride, subrotundum. STYLIS tres, albi, filiformes reflexi. STIGMATA simplicia. <i>fig. 4.</i>	PISTILLUM: GERMEN green, roundish. STYLES three, white, filiform and reflexed. STIGMATA simple. <i>fig. 4.</i>
PERICARPIUM: Capsula ovata, subventricosa, testâ, unilocularis, apice quinquefariam seu sexfariam dehiscens. <i>fig. 5.</i>	SEED-VESSEL: an ovate Capsule, somewhat bellying out at bottom, covered by the calyx, of one cavity, opening at top, with five or six teeth. <i>fig. 5.</i>
SEMINA plurima, minima, reniformia, ad lentem lineis insculptis pulchre reticulata. <i>fig. 6.</i>	SEEDS numerous, very small, kidney-shaped, beautifully reticulated with impressed lines, visible when magnified. <i>fig. 6.</i>

This plant, one of the least of the genus *Arenaria*, is very common on walls, among rubbish, and in dry and barren places. It flowers in June.

There is a neatness in it sufficient to recommend it as an ornamental plant for walls, rocks, &c. on which it will grow most readily.

The rigidity of its stalks, and thyme-like form of its leaves, readily distinguish it from all its congeners.







Arenaria trinervia.

ARENARIA TRINERVIA. PLANTAIN-LEAVED CHICKWEED.

ARENARIA *Lin. Gen. Pl.* DECANDRIA TRIGYNIA.

Cal. 5-phyllus, patens. *Petala* 5, integra. *Capf.* 1 locularis, polysperma.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

ARENARIA *trinervia* foliis ovatis acutis petiolatis nervosis. *Lin. Syst. Vegetab.* p. 353. *Sp. Pl.* p. 605. *Fl. Succ.* n. 397.

ALSINE foliis ovato-lanceolatis, trinerviis. *Haller. Hist.* n. 878.

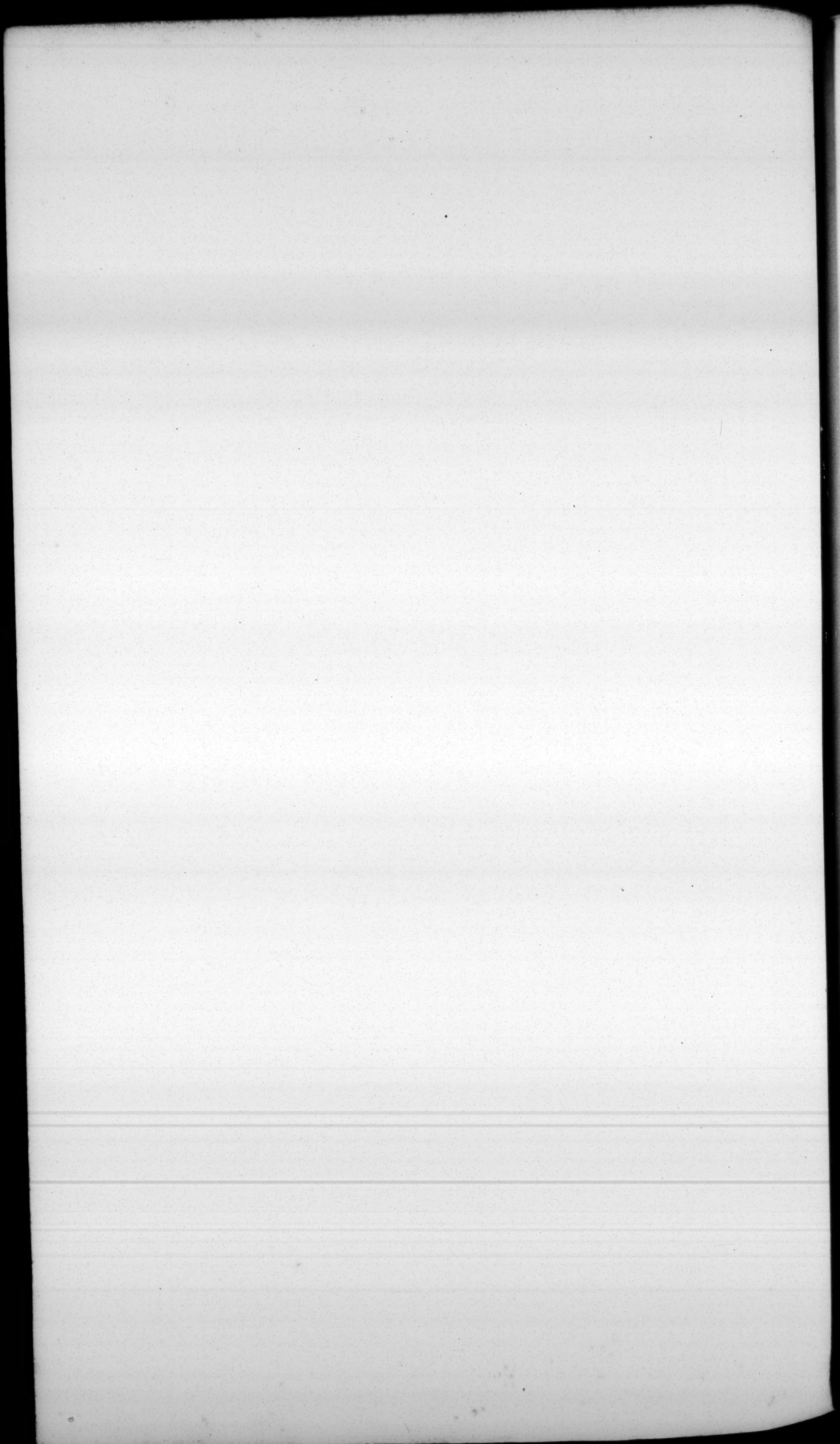
ALSINE *Plantaginis folio.* I. B. III. 364. *Raii Syn.* p. 349. Plantain-leaved Chickweed. *Hudson Fl. Angl. ed.* 2. p. 191. *Lightfoot Fl. Scot.* p. 230. *Oeder Fl. Dan.* t. 429.

RADIX annua, tenuissima, fibrosa, albida.	ROOT annual, very slender, fibrous, and whitish.
CAULES plures, spithamæi, pedales, et ultra, debiles, teretes, undique pubescentes, geniculati, ramossissimi.	STALKS several, a span, a foot or more in length, weak, downy, all round jointed, and very much branched.
FOLIA opposita, ovata, acuta, pallide viridia, trinervia, integerrima, margine nervisque minutim ciliatis, supremis sessilibus, inferioribus petiolatis, crebrioribus, minoribus.	LEAVES opposite, ovate, pointed, of a pale green colour, three-rib'd, entire, the edge and ribs finely fringed with hairs, the uppermost sessile, the lowermost standing on foot-stalks, more numerous and smaller.
PETIOLI subulati, marginibus pilosis.	LEAF-STALKS somewhat winged, the edges hairy.
FLORES alterni, solitarii, e dichotomia caulis.	FLOWERS alternate, solitary, proceeding from the forking of the stalk.
PEDUNCULI teretes, pubescentes, primo erecti, demum horizontaliter extensi, apice subinflexo, et paululum incrassato.	FLOWER-STALKS round, downy, at first erect, finally horizontally extended, the tip somewhat bent in, and a little thickened.
CALYX: PERIANTHIUM pentaphyllum, foliis ovato-acuminatis, carinatis, pubescentibus, corolla longioribus. <i>fig. 1.</i>	CALYX: a PERIANTHIUM of five leaves, which are ovate, running out to a point, keeled, downy, longer than the corolla. <i>fig. 1.</i>
COROLLA: PETALA quinque, parva, alba, obovata, integra. <i>fig. 2.</i>	COROLLA: five PETALS, small, white, inversely ovate and entire. <i>fig. 2.</i>
STAMINA: FILAMENTA decem, longitudine corollæ, alba, filiformia. ANTHERÆ minutæ, flavæ <i>fig. 3.</i>	STAMINA: ten FILAMENTS, the length of the corolla, white, filiform. ANTHERÆ very small, and yellow. <i>fig. 3.</i>
PISTILLUM: GERMEN ovatum. STYLI tres, longitudine germinis. STIGMATA obtusiuscula. <i>fig. 4.</i>	PISTILLUM: GERMEN ovate. STYLES three, the length of the germen. STIGMATA bluntish. <i>fig. 4.</i>
PERICARPIUM: Capsula subconica, tecta, unilocularis.	SEED-VESSEL: a Capsule of a shape somewhat conic, covered by the calyx, and having one cavity.
SEMINA plurima, subreniformia, planiuscula, glaberrima, nigra.	SEEDS numerous, somewhat kidney-shaped, flattish, very smooth, and black.

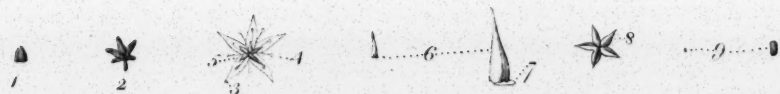
There exists a considerable similarity betwixt the present plant and the common Chickweed; the attentive observer will, however, find them to differ very materially.

As a principal part of the professed design of this work is to remove, as much as possible, every difficulty attending an investigation of the British plants, we shall point out those differences which have appeared to us the most striking in comparing the two together. The common Chickweed, as its name imports, is found almost every where, as well in exposed as in shady situations; this, on the contrary, is found with us only in woods, and on the shady banks surrounding them, and, compared with the other, may be considered rather as a scarce plant. The common Chickweed flowers in *March* and *April*; this produces its blossoms in *May* and *June*. The common Chickweed has a row of hairs running down each side of the stalk; this is uniformly covered with very short hairs, scarcely discernible. The former has a procumbent stalk; this grows erect. In the former the leaves are not distinguished by any veins or ribs; this, on the contrary, has three strong ones, which give them somewhat the appearance of those of Plantain, whence its name. In the former the petals are bifid; in this they are entire. The seeds also afford another very striking difference: in the common Chickweed they are brown and rough; while those of the *trinervia* are black, perfectly smooth, and shining.

We know of no particular use to which this diminutive plant is applicable.







Sedum acre L.

SEDUM ACRE. COMMON YELLOW STONECROP, OR WALL-PEPPER.

SEDUM. *Linnaei Gen. Pl.* DECANDRIA PENTAGYNIA.

Raii Synopsis Gen. 17. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.

SEDUM *acre* foliis subovatis, adnato-fessilibus, gibbis, erectiusculis, alternis; cyma trifida. *Lin. Syst. Vegetab.* p. 359. *Fl. Suecic.* p. 153.

SEDUM foliis conicis confertis, caulibus ramosis, summis trifidis. *Haller. hist. v. 1. n. 966.*

SEMPERVIVUM minus vermiculatum acre. *Baubin. pin.* 283.

VERMICULARIS feu Illecebra minor acris. *Ger. emac.* 517.

ILLECEBRA minor feu Sedum tertium Dioscoridis. *Parkinson 735. Raii Synop.* 270. *Hudson. Fl. Angl.* p. 171.

RADIX perennis, fibrosa.

CAULES numerosi, cæspitosi, ramosissimi, palmares, ad basin repentes, dein erecti, teretes, foliosissimi.

FOLIA alterna, conferta, imbricata, suberecta, adnato-fessilia, ovata, obtusa, brevia, carnosa, margine paululum compressa, glabra, *sapores acris.* *fig. 1.*

FLORES sessiles, lutei, in Cymas subtrifidas dispositi.

CALYX: PERIANTHIUM quinquepartitum, persistens, laciniis crassis obtusiusculis, *fig. 2.*

COROLLA: PETALA quinque lanceolato-acuminata, plana, patentia, Calyce duplo longiora, *fig. 3.*

NECTARIUM: Squamula minima, alba, ad basin, singuli germinis extrorsum posita, *fig. 7.*

STAMINA: FILAMENTA decem subulata, longitudine Corollæ. ANTHERÆ flavæ, *fig. 4.*

PISTILLUM: GERMINA quinque oblonga, flavæ, in STYLOS acuminatos desinentia. STIGMATA simplicia, *fig. 6.*

PERICARPIUM: CAPSULÆ quinque patentes, acuminatæ, compressæ, longitudinaliter futurâ introrsum dehiscences, *fig. 8.*

SEMINA minima, ovata, rufa, *fig. 9.*

ROOT perennial, and fibrous.

STALKS numerous, growing in tufts, very much branched, three inches high, creeping at their base, but afterwards growing upright, round, and very leafy.

LEAVES alternate, growing very thick together, and laying one over another, nearly upright, growing to the stalk, oval, blunt, short, fleshy, flattened a little at the edges, smooth, and of a very biting taste, *fig. 1.*

FLOWERS sessile, yellow, growing in Cymæ somewhat trifid.

CALYX: a PERIANTHIUM divided into five segments, and continuing, the segments thick and bluntish, *fig. 2.*

COROLLA: composed of five long-pointed PETALS which are flat, spreading, and twice the length of the Calyx, *fig. 3.*

NECTARY: a very minute scale or gland placed externally at the bottom of each Germen, *fig. 7.*

STAMINA: ten FILAMENTS, tapering, the length of the Corolla, the ANTHERÆ yellow, *fig. 4.*

PISTILLUM: five GERMINA, oblong, yellow, terminating in five long-pointed STYLES. The STIGMATA simple, *fig. 6.*

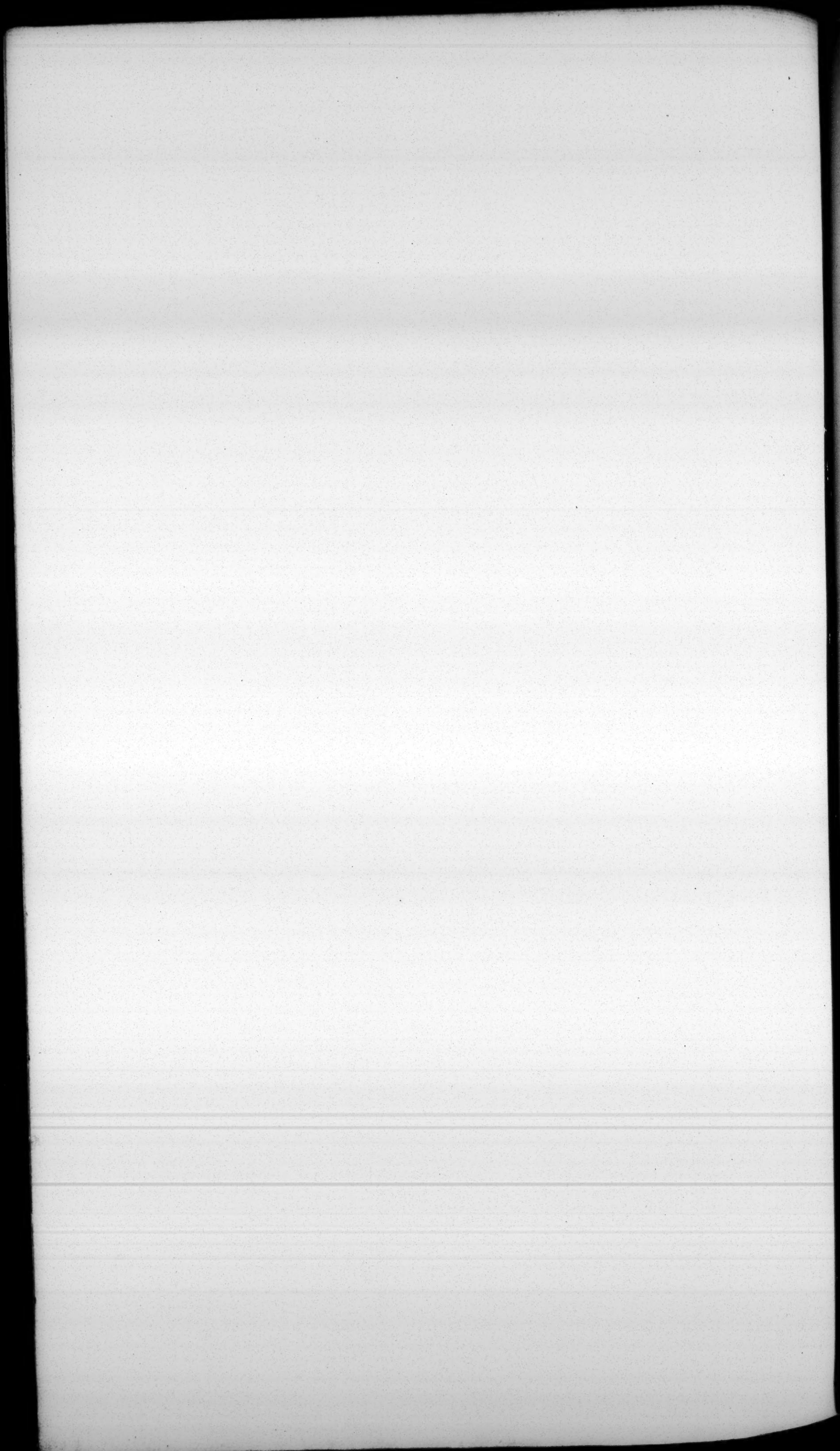
SEED-VESSEL: five CAPSULES, spreading, long-pointed, flat, opening internally by a longitudinal future, *fig. 8.*

SEEDS very minute, oval, and reddish brown, *fig. 9.*

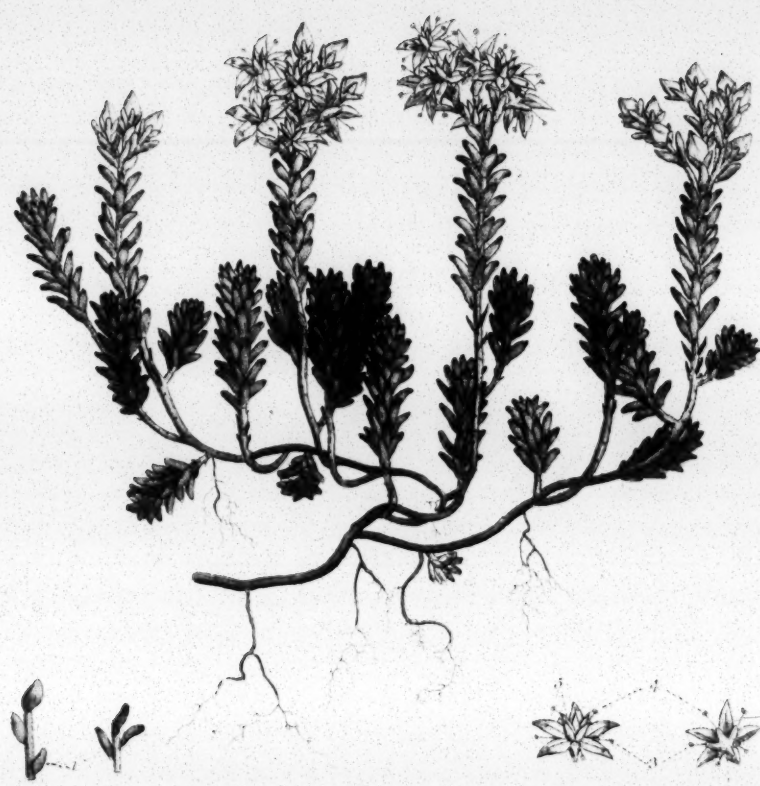
According to the account which some medical Writers give of this Plant it appears to possess considerable virtues, while others, from the durability of its acrimony, and the violence of its operation, have thought it scarce safe to be administered. Chewed in the mouth it has a very hot and biting taste, whence its name of *Wall-Pepper*. Applied to the skin it excoriates and exulcerates it, taken internally it proves emetic and diuretic.

The Diseases in which it has been chiefly recommended are the Scurvy and Dropsy, in both of which, according to Linnæus, it is an excellent remedy; and some instances are brought of the efficacy of its juice in Cancers, but these perhaps, stand in need of farther confirmation.

It grows very common on Houses, Walls, and gravelly Banks, and flowers in June; it continues but a short time in blossom, but while it lasts its lively yellow colour gives a very pretty appearance to those Houses and Walls which are covered with it.







Sedum serotinum L.

SEDUM SEXANGULARE. INSIPID STONECROP.

SEDUM *Lin. Gen. Pl.* DECANDRIA PENTAGYNIA.

Cal. 5 fidus. *Cor.* 5 petala. *Squamæ* nectariferæ 5 ad basin germinis. *Caps.* 5.

Raii Syn. Gen. 17. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.

SEDUM *sexangulare* foliis subovatis adnato sessilibus gibbis erectiusculis sexfariam imbricatis. *Lin. Syst. Vegetab.* p. 359. *Spec. Plant.* p. 620. *Fl. Suecic.* n. 404.

SEDUM foliis teretibus, ternatis; caulibus simplicibus trifidis. *Huller. hist.* n. 965.

SEDUM *sexangulare.* *Scopoli Fl. Carn.* n. 558.

SEMPERVIVUM minus vermiculatum insipidum. *Baubin. pin.* 284.

SEDUM minimum luteum non acre. *Baubin. hist.* 3. p. 695. *Hudson Fl. Angl. ed.* 1. p. 172.

RADIX perennis, fibrosa.

CAULES basi repentes, floriferi erecti, tripollicares et ultra, teretes, glabri, punctati, inferne nudi, rubentes.

FOLIA oblonga, carnosæ, teretiuscula, obtusa, erecto-patentia, sexfariam imbricata, presertim ante florescentiam, rigidula, adnato-sessilia, inferne rubentia, superne caulibus saltem floriferis e flavo viridia, insipida.

CYMA plerumque trifida, floribus in singulo ramulo tribus ad quinque, sessilibus.

CALYX: PERIANTHIUM quinque-partitum, laciniis obtusis, carnosis, basi tenuioribus.

COROLLA: PETALA quinque, flava, lanceolata, acuminata, calyce duplo longiora, patentia. *fig.* 2.

STAMINA: FILAMENTA decem, subulata, longitudine corollæ; ANTHERÆ subrotundæ, flavescens. *fig.* 3. 4.

PISTILLUM: GERMINA quinque, erecta, oblonga, deflexa in STYLOS tenuiores; STIGMATA simplicia. *fig.* 5.

ROOT perennial and fibrous.

STALKS creeping at the base, those which produce flowers about three inches or more in height, round, smooth, dotted, below naked and of a reddish colour.

LEAVES oblong, fleshy, roundish, obtuse upright, but bending a little outward, placed one over another in six rows, especially before the blossoms open, somewhat rigid, sessile, as if stuck to the stalk, those on the lower part of the stem of a reddish colour, on the upper part yellowish, at least on the flowering stalks, insipid.

CYMA generally divided into three branches, on each of which are placed from three to five flowers, without footstalks.

CALYX: a PERIANTHIUM divided into five segments, which are obtuse, fleshy, and slenderer at the base.

COROLLA: five yellow PETALS, lance-shaped, acuminated spreading, twice the length of the calyx. *fig.* 2.

STAMINA: ten FILAMENTS, tapering, the length of the corolla; ANTHERÆ roundish, and of a yellowish colour. *fig.* 3. 4.

PISTILLUM: GERMINA five, upright, oblong, terminating in slender STYLES: STIGMATA simple. *fig.* 5.

In DILLENIIUS's edition of *Ray's Synopsis* this plant is omitted, and not considered even as a variety of the *Sedum acre*. Mr. HUDSON, in the first edition of his *Flora Anglica*, introduced it as a distinct species, in which he followed the opinion of LINNÆUS; in his last edition, without assigning any reason, he makes it a variety of the *Sedum acre*; HALLER, however, and SCOPOLI confirm LINNÆUS's opinion, and on such authority we surely may differ from Mr. HUDSON.

The constant want of that biting taste which gives the name of *Wall Pepper* to the *Sedum acre*, has been considered by many of our English Botanists sufficient to constitute this a distinct species; for though acrid plants may sometimes become mild, as in the *Hydropiper*, yet instances of that kind very rarely occur, but it is not in its taste alone that the *sexangulare* differs from the *acre*, in its leaves we shall find a satisfactory difference, on comparing these together as they grow on the flowering stems of both plants, we find those of the *acre* short, broad at the base, and at a considerable distance asunder, *vid. fig.* 1. while those of the *sexangulare* are nearly of the same thickness throughout, longer, and more numerous, *vid. fig.* 1. we may also add, that they are in general much redder, in the young shoots of the *sexangulare* the leaves form six rows or angles, which are sometimes straight and sometimes oblique; no traces of which are visible in the *acre*; another circumstance which adds some weight to the foregoing is, that the *acre* flowers a fortnight sooner than the *sexangulare*; the parts of the fructification afford little or no difference, indeed a great sameness in this respect runs through the whole genus.

We find this plant growing plentifully on Greenwich-park-wall, the south side, near the western corner. It flowers about the latter end of June.





Sedum album.

SEDUM ALBUM. WHITE-FLOWERED STONECROP.

SEDUM *Linnaei Gen. Pl.* DECANDRIA PENTAGYNIA.

Cal. 5 fidus. *Cor.* 5-petala. *Squamæ* nectariferæ 5, ad basin germinis. *Caps.* 5.

Raii Syn. Gen. 17. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.

SEDUM *album* foliis oblongis obtusis teretiusculis sessilibus patentibus, cyma ramosa. *Lin. Syst. Vegetab.* p. 359. *Sp. Pl.* p. 619. *Fl. Suecic.* 153.

SEDUM caule glabro, foliis teretibus; umbellis ramosis; floribus petiolatis. *Haller hist. helv. n.* 959.

SEDUM *album.* *Scopoli Fl. Carn.* p. 324.

SEDUM minus teretifolium album. *Bauhin.* p. 283.

SEDUM minus officinarum. *Gerard emac.* 512.

VERMICULARIS five crassula minor vulgaris. *Parkinson* 734. *Raii Syn.* 271. *Hudson Fl. Angl.* p. 171. *Oeder. Fl. Dan. Icon.* 66.

RADIX perennis, fibrosa.

CAULES flexuose super muros repent, dein eriguntur, triunciales circiter, foliosi, rubri.

FOLIA sessilia, oblonga et fere cylindracea, obtusa, non admodum conferta, patentia, carnea, glabra, sæpius rubicunda.

INFLORESCENTIA: Flores petiolati, in CYMAM ramosam confertam dispositi.

CALYX: PERIANTHIUM pentaphyllum, foliolis brevibus, obtusis, fig. 1.

COROLLA: PETALA quinque alba, acuminata, lineâ longitudinali rubra sæpius notata, fig. 2.

NECTARIUM glandula minima squamiformis ad basin singuli Germinis. fig. 6.

STAMINA: FILAMENTA decem alba, fig. 2, 3; ANTHERÆ rubræ.

PISTILLUM: GERMINA quinque, in STYLOS totidem acuminatos desinentia; STIGMATA simplicia, fig. 4, 5.

PERICARPIUM: CAPSULÆ quinque minimæ acuminatæ introrsum dehiscentes, fig. 7.

SEMINA parva, oblonga, fig. 8.

ROOT perennial and fibrous.

STALKS creep on the walls in a crooked form, then grow upright, about three inches high, leafy, and red.

LEAVES sessile, oblong and almost cylindrical, obtuse, but thinly placed on the stalk, spreading, fleshy, smooth, and generally of a reddish colour.

INFLORESCENCE: Flowers standing on foot-stalks, and disposed in a thick branched CYMA.

CALYX: a PERIANTHIUM of five leaves, which are short and obtuse, fig. 1.

COROLLA: five white PETALS, acuminate and generally marked with a longitudinal red streak, fig. 2.

NECTARY a very minute squamiform gland at the base of each of the Germina, fig. 6.

STAMINA: ten white FILAMENTS, fig. 2, 3; ANTHERÆ deep red.

PISTILLUM: five GERMINA, terminating in so many acuminate STYLES; the STIGMATA simple, fig. 4, 5.

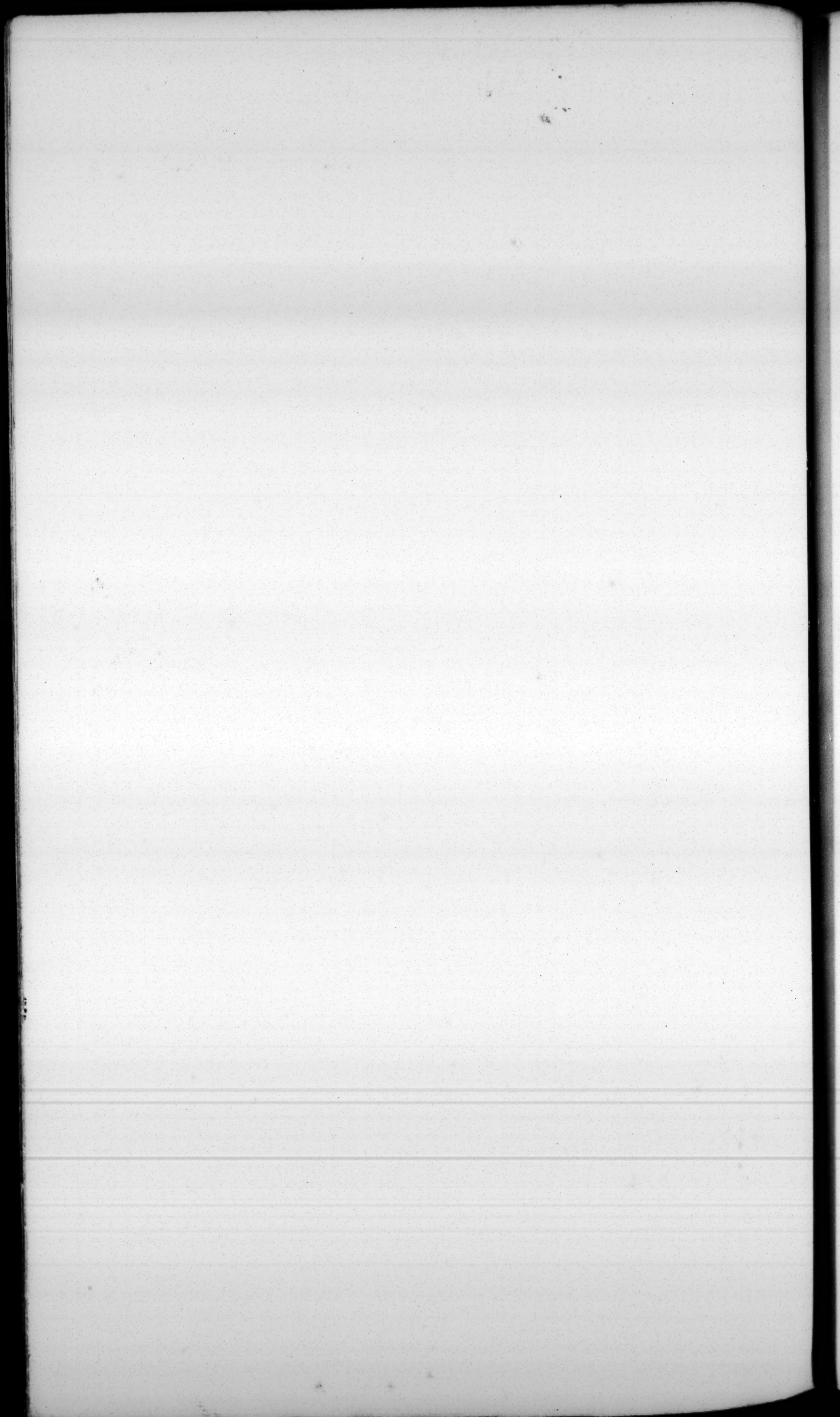
SEED-VESSEL: five small acuminate CAPSULES, opening inwardly, fig. 7.

SEEDS small and oblong, fig. 8.

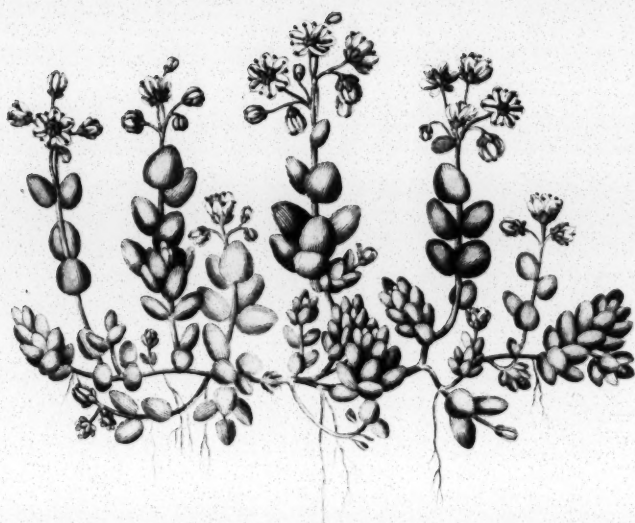
The *Sedum album* may be considered with us as rather a scarce plant; it is found here and there on the Walls about Town, particularly on the Chapel-wall in *Kentish-Town*, where it has grown for many years; also upon a Wall on the left-hand side leading from *Bromley* to *Bromley-Hall*, in *Middlesex*. It has been thought to possess sufficient beauty to recommend it as a garden plant, and is accordingly, with very little trouble, cultivated in many of the gardens of the curious, nothing more being necessary than placing it in a pot filled with gravel or mould: in such a situation it will grow, flourish, and propagate itself very fast.

It has been called *album* from the colour of its flowers, which generally however have a tinge of red in them. It flowers in July. The round and oblong shape of its leaves readily distinguishes it from our other *Stonecrops*.

HALLER informs us that it possesses all the virtues of the large *Houfeleek*, and that he has used the juice of it in uterine hæmorrhages, but does not inform us with what success. By way of cataplasm it is applied to the piles when in a painful state, and is said to have sometimes been made the same use of in cancers with success. By some it is eaten as a pickle.







Sedum dasyphyllum

Linnaeus. Scler.

SEDUM DASYPHYLLUM. THICK-LEAVED STONECROP.

SEDUM *Linnaei*. Gen. Pl. DECANDRIA PENTAGYNIA.

Cal. 5-fidus. Cor. 5-petala. Squamæ nectariferæ 5 ad basin germinis. Caps. 5.

Raii Syn. Gen. 17. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.

SEDUM *dasyphyllum* foliis oppositis ovatis obtusis carnosiss, caule infirmo, floribus sparsis. Linn. Syst. Vegetab. p. 358. Spec. Plant. 618.

SEDUM foliis conicis, obtusis, glaucis, reticulatis; caule ramoso viscido. Haller. Hist. n. 961.

SEDUM *dasyphyllum*. Scopoli. Fl. Carn. n. 555.

SEDUM minus circinato folio. Baubin. Pin. 283.

SEDUM foliis cordato-ovatis compressis sæpius oppositis, floribus sparsis. Sauv. Monsp. 8.

SEDUM foliis semiglobosis subovatis sessilibus quadrifariam imbricatis. Wachend. ultr. 391.

AIZOON *dasyphyllum*. Dalech. Hist. 1133.

Raii Syn. ed. 3. p. 271.

Hudson. Fl. Angl. 172. ed. 2. p. 197.

PLANTA perennis.

CAULES plurimi, triunciales et ultra, teretes, debiles, viscosi, simplices, erecti, basi repentes.

FOLIA pro ratione plantæ magna, plerumque opposita, cordato-ovata, adnata, carnosissima, glauca, interne planiuscula, externe convexa, punctata, sæpe rubore quasi reticulata, circa medium caulis majora, inferiora interne excavata.

PEDUNCULI ramosi, viscosi, priusquam flores aperiantur nutantes.

FLORES intus albi, externe rubentes.

CALYX: PERIANTHIUM sexpartitum, parvum, laciniis ovatis, carnosiss, viscidis, fig. 1, parum auct.

COROLLA: PETALA sex, ovato-acuta, plana, patentia, calyce triplo longiora, carinata, fig. 2, magn. nat.

NECTARIA sex, singulum glandula minima flava singulogermine ad basin extroisum posita, fig. 5.

STAMINA: FILAMENTA plerumque duodecim, subulata, longitudine corollæ: ANTHERÆ primum subrotundæ, rubræ, demum compressæ: POLLEN flavum, fig. 3.

PISTILLUM: GERMINA sex, oblonga, deflexa in stylos tenuiores: STIGMATA simplicia, recurvata, fig. 4.

PERICARPIUM: CAPSULÆ sex, pallide fuscæ, introversum dehiscentes.

SEMINA minima, flavescencia.

The PLANT is perennial.

STALKS numerous, about three inches high, round, weak, clammy, simple, upright, and creeping at bottom.

LEAVES, in proportion to the plant, large, generally opposite, of an heart-shaped oval figure, growing to the stalk, fleshy, of a blueish green colour, flattish on the inside, and convex on the outside, dotted, frequently veined with red, largest about the middle of the stalk, the lowermost hollow on the inside.

FLOWER-STALKS branched, clammy, before the flowers open hanging down.

FLOWERS white on the inside, externally reddish.

CALYX: a PERIANTHIUM divided into six segments, small, the segments oval, fleshy, and viscid, fig. 1, a little magnified.

COROLLA: six PETALS, oval and pointed, flat, spreading, three times the length of the calyx, midrib projecting, fig. 2, natural size.

NECTARIES six, each a small yellow gland, placed externally at the bottom of each germen, fig. 5.

STAMINA: FILAMENTS most commonly twelve, tapering, the length of the corolla: ANTHERÆ, first roundish, and of a red colour, lastly flattened: the POLLEN yellow, fig. 3.

PISTILLUM: six GERMINA, oblong, terminating in slender STYLES: STIGMATA simple, and bending down, fig. 4.

SEED-VESSEL: six CAPSULES of a pale brown colour, opening internally.

SEEDS very minute, and yellowish.

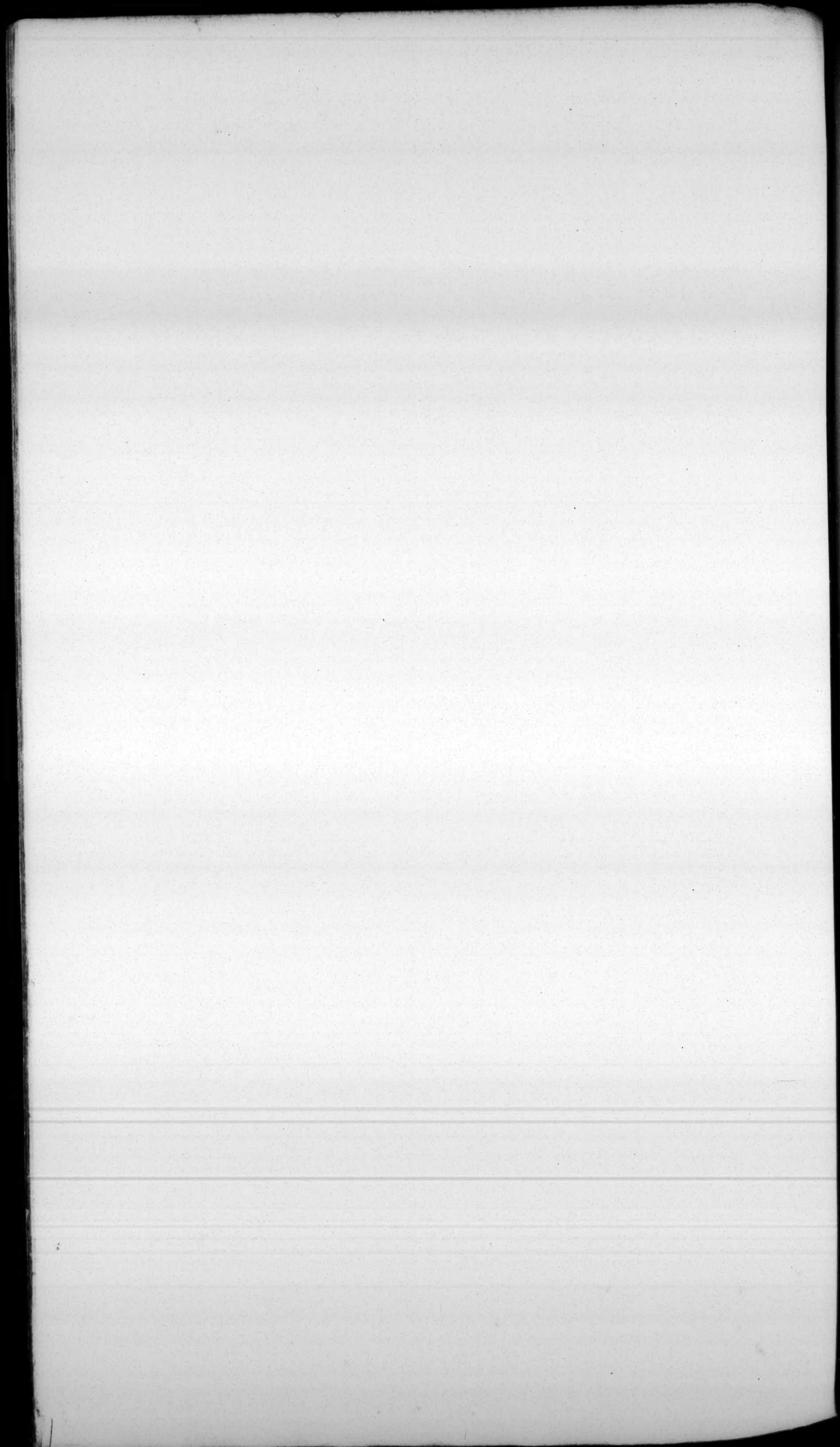
SUCH persons as are fond of decorating the rock work of their gardens with plants, cannot select one better adapted to the purpose than the present species of *Stonecrop*. It grows without any trouble, in any aspect, multiplies very much by young shoots, and looks beautiful throughout the year. Indeed it is strange that it has not yet made its way more universally into gardens.

I have frequently noticed it on the walls about town. It grows particularly in great abundance on a wall near *Chelsea Hospital*, on the left-hand side of the horse-road, on turning the corner out of *Paradise-Row*; likewise on a wall on the left-hand side of the lane leading from *Kenington gravel-pits* to *Acton*; and elsewhere.

Its thick white leaves readily distinguish it from every other species of *Stonecrop*.

Botanists have differed widely in the descriptions of these, as will appear from a perusal of the Synonyms.

It flowers in June; and has generally one additional part more throughout the whole of the fructification than the *Sedum acre*, and other *Stonecrops*.







SEDUM TELEPHIUM ORPINE.

SEDUM *Lin. Gen. Pl.* DECANDRIA PENTAGYNIA.

Cal. 5-fidus. *Cor.* 5-petala. *Squamæ* nectariferæ 5 ad basin germinis.
Caps. 5.

Raii Syn. Gen. 17. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.

SEDUM foliis planiusculis ferratis, corymbo folioso caule erecto. *Lin. Syst. Vegetab.* p. 358. *Sp. Pl.* 616. *Fl. Suecic.* n. 400.

SEDUM androgynum foliis confertis, ferratis, floribus dense umbellatis. *Haller. Hist.* 954.

SEDUM *Telephium.* *Scopoli Fl. Carniol.* p. 323.

TELEPHIUM vulgare. *Baubin. Pin.* 287.

ANACAMPSEROS, vulgo Faba crassa. *J. B. III.* 681.

TELEPHIUM seu crassula major vulgaris. *Park.* 726.

CRASSULA seu Faba inversa *Ger.* 416. *Raii Syn.* p. 269. Orpine or Live long.

Hudson. Fl. Angl. ed. 2. p. 195.

RADIX perennis, tuberosa.

CAULES plurimi simul nascuntur, pedales, bipedales, et ultra, erecti, simplices, teretes, solidi, rubicundi, et sæpe rubro punctati.

FOLIA sparsa, conferta, erecta, sessilia, ovata, dentata idque varie, glabra, carnea, glauca.

FLORES in summis caulibus et ramulis (in quos summi caules dividuntur) in umbellas densas digesti, saturate purpurei, nobiscum rarissime albi.

CALYX: PERIANTHIUM minimum, carnosum, quinquefidum, laciniis acutis. *fig. 1.*

COROLLA: PETALA quinque, lanceolata, acuminata, plana, superne purpurea, subtus alba. *fig. 2.*

STAMINA: FILAMENTA decem, subulata, longitudine corollæ, ANTHERÆ subrotundæ, purpurascens. *fig. 3.*

PISTILLUM: GERMINA quinque, oblonga, desinentia in stylos tenuiores, coloratos; STIGMATA minima. *fig. 4.*

PERICARPIUM: CAPSULÆ quinque, acuminatæ, erectæ. *fig. 5.*

SEMINA plurima, minima.

ROOT perennial and tuberous.

STALKS many, growing up together, from one to two feet high, and upwards, upright, unbranched, round, solid, reddish, and often dotted with red.

LEAVES placed on the stalk so as nearly to cover it, in no regular order, upright, sessile, ovate, indented and that variously, smooth, fleshy, and of a blueish green colour.

FLOWERS placed on the tops of the stalks and branches (into which the tops of the stalks divide) in close umbells, of a deep purple colour, very rarely white with us.

CALYX: a PERIANTHIUM, very minute, and fleshy, the segments pointed. *fig. 1.*

COROLLA: five lanceolate petals, running out to a long point, flat, purple above, and whitish underneath. *fig. 2.*

STAMINA: ten FILAMENTS tapering, the length of the corolla; ANTHERÆ roundish, and somewhat purple. *fig. 3.*

PISTILLUM: five GERMINA, of an oblong shape, terminating in five, slender, coloured styles; STIGMATA, very minute. *fig. 4.*

SEED-VESSEL: five, acuminate, upright CAPSULES. *fig. 5.*

SEEDS numerous and very small

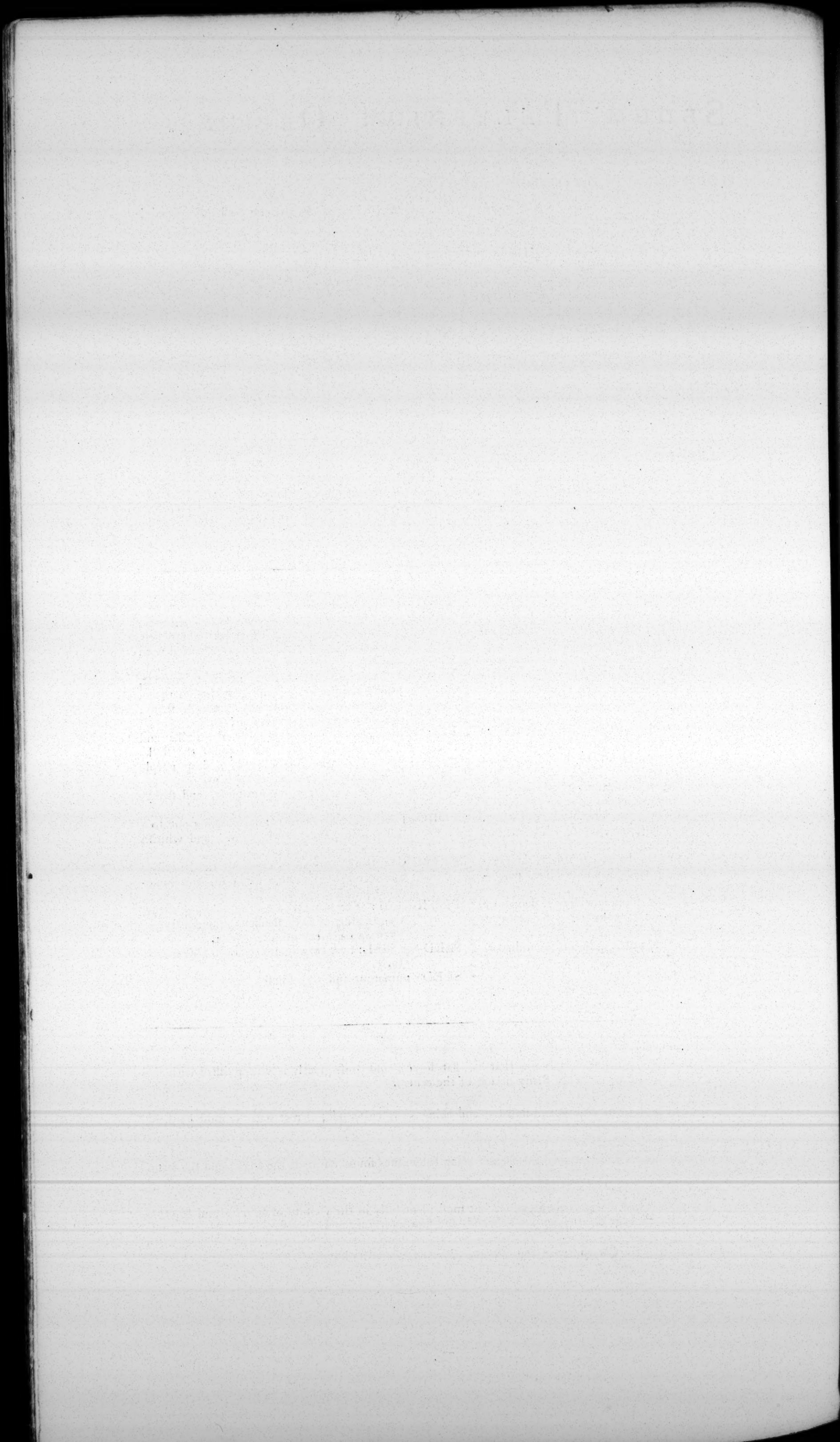
Of our English *Stonecrops*, this is the only one that has flat leaves, and consequently is distinguished with the utmost facility; it partakes however of the fleshy nature of the others.

It is a beautiful plant both in its foliage and flowers, and being easily cultivated, is met with in most gardens, where it will often grow a yard high.

It is said to vary in its leaves and blossoms, the former being sometimes found entire at the edge, and the latter of a white colour.

I have found it wild in many places about London, but most plentifully in the vicinity of *Charlton* and *Shooter's Hill*; it grows among the herbage on the confines of woods and flowers in July and August.

LINNÆUS informs us that the Caterpillar of the *Phalæna alpicola* feeds on its leaves.







Crataegus acetosella

OXALIS ACETOSELLA. WOOD-SORREL.

OXALIS *Linnaei* Gen. Pl. DECANDRIA PENTAGYNIA.

Cal. 5-phyllus. Petala unguibus connexa. Caps. angulis dehiscens, 5-gona.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

OXALIS *Acetofella* scapo unifloro, foliis ternatis obcordatis, radice dentata. *Linnaei. Syst. Vegetab. p. 360.*

Sp. Pl. p. 620. Fl. Suecic. n. 406.

OXYS scapo unifloro, foliis ternatis, radice squamoso-articulata. *Haller. hist. p. 402.*

OXYS *Acetofella. Scopoli Fl. Carniol. n. 561.*

TRIFOLIUM acetosum vulgare. *Baubin. pin. 330. Parkinson. 746.*

OXYS alba. *Ger. emac. 1201.*

ACETOSELLA et Lujula seu Alleluja *Offic. Raii Syn. p. *281, Wood-Sorrel.*

Hudson. Fl. Angl. p. 173.

Lightfoot. Fl. Scot. p. 238.

RADIX perennis, horizontalis, squamoso-dentata, ruberrima.

FOLIA terna, obcordata, ex flavo-virescentia, subtus sæpe purpurea, pilis raris adspersa, petiolis longis insidentia.

PETIOLI palmares, erectiusculi, teneri, e bulbillis vaginantibus prodeuntes, ad basin ruberrimi, teretes, superne ad unum latus sulcati.

FLORES albi aut carnei, venis rubris eleganter striati.

SCAPI uniflori, longitudine foliorum, bractæis duabus ovato-acutis vaginantibus prope apicem instructi.

CALYX: PERIANTHIUM quinquepartitum, breve, persistens, maculis purpureis sæpe notatum, laciniis obtusiusculis margine membranaceis, *fig. 1.*

COROLLA: PETALA quinque, unguibus paululum incurvatis receptaculo affixa, et paulo supra ungues coherentia, obtusa, subcrenata, basi flavedine tincta, *fig. 2.*

STAMINA: FILAMENTA decem, erecta, alba, quinque exteriora breviora, *fig. 3, 4*; ANTHERÆ flavescens, biloculares, *fig. 5.*

PISTILLUM: GERMEN quinquangulare, viride: STYLI quinque capillares, staminibus paulo longiores: STIGMATA obtusa, *fig. 6, 7.*

PERICARPIUM: CAPSULA subovata, pentagona, maculata, quinquelocularis, angulis longitudinaliter dehiscens, *fig. 8, 8.*

SEMINA: tria in singulo loculamento, cordata, per longitudinem striata, utrinque convexa, rufa, ARILLO nitido albo elastico inclusa, quo disrupto ejiciuntur, *fig. 9, 9.*

ROOT perennial, horizontal, scaly, and of a bright red colour.

LEAVES growing three together, inversely heart-shaped, of a yellowish green colour, frequently purple underneath, beset with a few hairs, and sitting on long foot-stalks.

LEAF-STALKS about three inches long, nearly upright, tender, proceeding from a little bulb which forms a kind of sheath to it; at bottom very red and round; the upper part grooved on one side.

FLOWERS white or flesh coloured, and elegantly streaked with red veins.

FLOWER-STALK, supporting a single blossom, the length of the leaves, furnished near the top with two oval pointed Bractææ, which partly surround it.

CALYX: a PERIANTHIUM deeply divided into five segments, short and permanent, often spotted with purple; the segments bluntish, and membranous at the edges, *fig. 1.*

COROLLA: five PETALS, affixed to the receptacle by the claws, which bend a little inward, just above the claws adhering together, blunt, slightly crenated, and tinged at bottom with yellow, *fig. 2.*

STAMINA: ten FILAMENTS, upright and white, the five exterior ones shortest, *fig. 3, 4*; ANTHERÆ yellowish, and bilocular, *fig. 5.*

PISTILLUM: a GERMEN, four corner'd and green: STYLES five, very slender, and a little longer than the Stamina: STIGMATA blunt, *fig. 6, 7.*

SEED-VESSEL: a CAPSULE somewhat oval, five cornered, spotted, with five cavities, the angles bursting longitudinally, *fig. 8, 8.*

SEEDS: three in each cavity, heart-shaped, and grooved longitudinally, convex on both sides, of a bright reddish brown colour, and inclosed within a shining white elastic ARILLUS, which bursting they are thrown out, *fig. 9, 9.*

IN this little plant, there is a delicacy of structure superior to what we observe in most: there are some circumstances also in the oeconomy of the plant not less worthy our attention; and which, I believe, have not hitherto been noticed. The first of these is the same process, with respect to the plants feeding, which we observe in the Violets. If this plant be attentively observed, it will be found to continue producing seed-vessels and seeds, during the greatest part of the summer, without any appearance of expanded blossoms, which are only observable at one particular season of the year. As soon as the plant has done flowering, the flower-stalk, as in many other plants, bends down; and when the seed is ripe, again becomes upright. The second is, if these seed-vessels, when ripe, are slightly pressed, they open at the angles, and the seeds are thrown out at the apertures; but not from any elasticity in the capsule itself, which continues unchanged: but the cause of their propulsion is a strong white shining arillus, which covers the seed, and which bursting, by its elasticity throws the seeds to a considerable distance. There are but few woods about us in which the *Wood-Sorrel* does not occur. It will not grow in a garden unless it has shade.

April and May are the months in which it flowers.

It is said to vary with blueish and purple-coloured blossoms.

The leaves in wet weather, are expanded; but in dry weather they droop; *Linnaei Fl. Suecic.* They are also said by some authors, to manifest a degree of sensibility on being struck. Possessing a very grateful acid taste, superior to common Sorrel, they have been used as an antieptic medicine, in malignant fevers, the scurvy, and all those diseases in which acids are indicated. The only form at present in use, is a conserve of the leaves: but the syrup, infusion, and juice of the leaves, and the leaves themselves, have been used indifferently.

The essential salt, extracted from it by crystallization, is made use of for taking out iron moulds and spots of ink from linen: for this purpose, the stained part is dipped in water, sprinkled with a little of the powdered salt, then rubbed on a pewter plate, after which the spot is washed out with warm water; *Newman's Chem. by Lewis.* Twenty pounds of fresh Sorrel leaves yielded six pounds of juice; from which were obtained two ounces, two drams, and one scruple of crystalline salt; *ibid.*

According to experiments made by Dr. Lobb, a piece of human calculus was dissolved in the juice of this plant in nine days; *Rutty's Mat. Med.*





*Agrostema Githago*

AGROSTEMA GITHAGO. COCKLE.

AGROSTEMA *Lin Gen. Pl.* DECANDRIA PENTAGYNIA.

Cal. 1-phyllus, coriaceus. *Petala* 5 unguiculata: *Limbo* obtuso, indiviso.
Capf. 1-locularis.

Raii Syn. Gen. 24 HERBÆ PENTAPETALÆ VASCULIFERÆ.

AGROSTEMA *Githago* hirsuta, calycibus corollam æquantibus, petalis integris nudis. *Lin. Syst. Veg.* p. 361. *Sp. Pl.* 624. *Fl. Suecic.* n. 407.

LYCHNIS calycibus longissime caudatis. *Haller. Hist.* 926.

LYCHNIS *Githago*. *Scopoli Fl. Carn.* n. 527.

LYCHNIS segetum major. *Bauh.* p. 204.

PSEUDO-MELANTHIUM *Ger-emas.* 1087.

LYCHNOIDES segetum five Nigellastrum. *Park.* 632. *Raii Syn.* 338. Cockle.

Hudson Fl. Angl. ed. 2. p. 198.

Lightfoot Fl. Scot. p. 238.

Oeder. Fl. Dan. t. 576.

RADIX annua.

CAULIS erectus, bipedalis, teres, fistulosus, hirsutus, superne ramosus.

FOLIA oblongo-lanceolata, carinata, basi connata, utrinque hirsuta, pilis ad basin folii longioribus.

FLORES solitarii, speciosi, purpurei.

CALYX: PERIANTHIUM monophyllum, quinquefidum, profunde sulcatum, angulosum, pilosum, laciniis lanceolatis, subnudis, carinatis, corollâ longioribus.

COROLLA: PETALA quinque, magna, speciosa, purpurea, obcordata, basi albida, venis paucis saturate viridibus interrupte notatis; Unguis tubularis, longitudine fere limbi. *fig. 1.*

STAMINA: FILAMENTA decem, subulata, quinque ad basin petalorum inserta, quinque seriora intra petala locata: ANTHERÆ pallide purpureæ, subagittatæ. *fig. 2. 3.*

PISTILLUM: GERMEN subrotundo-conicum, viride, glabrum: STYLI quinque, filiformes, albidii, pilosi, erecti, apicibus paululum reflexis; STIGMATA simplicia. *fig. 4. 5.*

PERICARPIUM: CAPSULA magnitudine fere glandis, calyce exsiccatō testum, ore quinqueidentato, lineis decem elevatis notatum. *fig. 6.*

SEMINA plurima, majuscula, angulata, eleganter exasperata. *fig. 7.*

ROOT annual.

STALK upright, about two feet high, round, hollow, hirsute, branched at top.

LEAVES of an oblong lanceolate shape, keel'd, uniting at the base, hairy on both sides, the hairs at the base of the leaves longest.

FLOWERS standing singly on the tops of the stalks, showy and purple.

CALYX: a PERIANTHIUM of one leaf, divided into five segments, of a hard substance, deeply grooved, angular and hairy, the segments lanceolate, slightly hairy, with a prominent midrib, and longer than the corolla.

COROLLA: five PETALS, large, showy, of a purple colour, and inversely heart-shaped, the base whitish, marked with a few interrupted veins of a deep green colour; Claw somewhat linear, almost the length of the limb. *fig. 1.*

STAMINA: ten FILAMENTS, tapering, five inserted into the base of the petals, and five later ones placed betwixt the petals; ANTHERÆ of a pale purple colour, and somewhat arrow-shaped. *fig. 2. 3.*

PISTILLUM: GERMEN of a roundish conical shape, smooth, and of a green colour; STYLES five, thread-shaped, whitish, hairy, upright, the tips bending a little back; STIGMATA simple. *fig. 4. 5.*

SEED-VESSEL; a CAPSULE almost the size of an acorn, covered with its dried calyx, having ten ribs, the mouth splitting into five teeth. *fig. 6.*

SEEDS numerous, largish, angular, with a surface like shagreen. *fig. 7.*

The Cockle is a very common plant in most Corn-fields about London and elsewhere; it flowers in June and July.

Like the red Poppy it contributes to ornament our fields, but is rarely found in gardens.

A miller informed me he never wished to see any of it among the corn he ground, as it had a very great tendency to clog his mill-stones.

The seeds being large and mealy, probably afford food to several sorts of birds.

Its medical virtues, highly extolled by former writers, are disregarded in the present practice.

ROSTTIN, OTTINGO

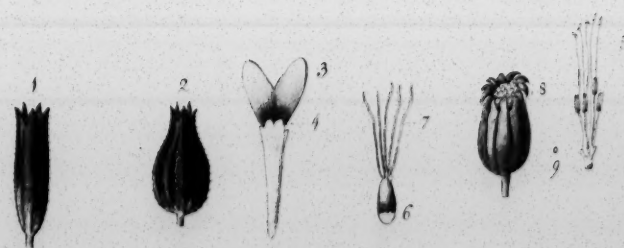
1871-1872

1871-1872





Lychnis dioica L.



LYCHNIS DIOICA FLORE RUBRO. RED CAMPION.

LYCHNIS *Linnaei Gen. Pl.* DECANDRIA PENTAGYNIA.

hæc species vero dioica est.

Cal. 1-phyllus, oblongus, lævis. *Petala* 5 unguiculata. *Limbo* subbifido.

Caps. 5-locularis.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

LYCHNIS *dioica* floribus dioicis. *Linnaei Syst. Vegetab.* p. 362. *Fl. Suecic.* p. 156. *Sp. Pl.* p. 626.

LYCHNIS floribus sexu distinctis. *Haller. hist. n.* 923.

LYCHNIS *dioica.* *Scopoli Fl. Carniol.* n. 530.

LYCHNIS *fylvestris* five *aquatica* purpurea simplex. *Baubin pin.* 204.

LYCHNIS *fylvestris* flore rubro. *Parkinson.* 631.

LYCHNIS *fylvestris* rubello flore. *Gerard emac.* 469. *Raii Syn.* 339, Red Flowered Wild Campion.

Hudson Fl. Angl. 174.

RADIX perennis, minimi digiti crassitudine, alba, sapore subacri et amaro, fibris multis donato.

CAULES ex una radice plures, erecti, pedales, aut tripedales etiam, teretes, hirsuti, geniculati, purpurei, geniculis incrassatis, ramosi, ramis superioribus dichotomis.

FOLIA opposita, connata, ovato-acuminata, hirsuta, subnervosa.

CALYX: PERIANTHIUM monophyllum, tubulosum, hirsutum, striatum, purpureum, quinquedentatum, persistens, *fig. 1*; in femineâ turgidior, *fig. 2*.

COROLLA: PETALA quinque obcordata, purpurea, patentia, *fig. 3*; ad basin laminæ, unguiculæ obtusæ, binæ aut quadrifidæ, *fig. 4*.

STAMINA: FILAMENTA decem subulata, alba, quorum quinque longiora: ANTHERÆ flavescentes, *fig. 5*.

PISTILLUM: GERMEN ovatum: *Nectario* ad basin cinctum, *fig. 6*: STYLI quinque longi: albi: villosi: STIGMATA simplicia, *fig. 7*.

PERICARPIUM: CAPSULA unilocularis, ore decedentato, *fig. 8*.

SEMINA plurima, cana, scabriuscula, *fig. 9*.

ROOT perennial, the thickness of the little finger, white, of a slightly acrid and bitter taste, furnished with numerous fibres.

STALKS several from one root, upright, from one to three feet high, round, hirsute, jointed, purple, the joints swelled, branched, the uppermost branches forked.

LEAVES opposite, connate, oval-pointed, hirsute, and slightly nervous.

CALYX: a PERIANTHIUM of one leaf, tubular, hairy, striated, purple, having five teeth, and continuing, *fig. 1*; in the female more turgid, *fig. 2*.

COROLLA: five purplish heart-shaped PETALS, spreading, *fig. 3*: at the bottom of the lamina or broad part of the petal, are two or four small upright white blunt leaves, or additional petals, *fig. 4*.

STAMINA: ten white tapering FILAMENTS, of which five are longer than the others: ANTHERÆ yellowish, *fig. 5*.

PISTILLUM: GERMEN oval, surrounded by a *Nectarium* at bottom, *fig. 6*: STYLES five, long and white: STIGMATA simple, *fig. 7*.

SEED-VESSEL a CAPSULE of one cavity, the mouth having ten teeth, *fig. 8*.

SEEDS numerous, grey and rough, *fig. 9*.

THE *Lychnis* tribe in general produce both Stamina and Styles in the same flower; but in this species we see a remarkable instance of the capricious inconstancy of nature, who seems to spurn the fetters of systematic distinction, and laughs at man's attempt of subjecting her to particular rules; for here the Stamina and Styles grow on separate plants; yet they are placed by LINNÆUS in his Class *Decandria*. What could he have done in this case? had he placed it under *Monoecia*, he would have separated plants evidently of the same genus: still, however, it may be said, he would have made the investigation of the plant easier to the botanic student; nor would it have been the only instance where plants nearly similar are disunited, as in the *Anthoxanthum* and *Holeus*, which evidently belong to the Grasses, yet are in separate Classes.

Exclusive of this singular variation with regard to the sex, there is a no less remarkable difference with respect to the colour of the flowers in different plants; some being constantly white and others as constantly red: this with some other circumstances relative to the two plants, has led me to suspect that they are not varieties but distinct species: cultivation and farther attention to them, will enable me to speak of this with more certainty.

The red sort here figured, grows in great abundance in moist shady ditches and by the sides of hedges, and sometimes in woods. It flowers in May and June.

Both the white and red are cultivated when double, and called by the Gardeners about town *Batchelors Buttons*, a name which seems with more propriety to belong to some of the double flowering *Crowfoots*, as the *Ranunculus acris* and *aconitifolius*.

The Aurelians, or those who collect Insects of the Moth and Butterfly kind, frequently catch the *Sphinx porcellus*, or small *Elephant Hawk Moth*, on the flowers of this plant in the evening, and where it grows in abundance.

The seeds are liable to be eaten within the seed-vessel, in July and August, by a Caterpillar which produces a brownish coloured Moth, not figured, nor I believe hitherto noticed by any Entomologist.







Lychnis Flos cuculi.

LYCHNIS FLOS CUCULI. MEADOW LYCHNIS.

LYCHNIS *Linnaei Gen. Pl.* DECANDRIA PENTAGYNIA.

Raii Synopsis Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

LYCHNIS *Flos Cuculi* petalis quadrifidis fructu subrotundo. *Lin. Syst. Vegetab.* p. 361. *Sp. Pl.* 625.

LYCHNIS petalis quadrifidis. *Haller. hist. v. 1. n.* 921.

CARYOPYLLUS pratensis, laciniato flore simplici, five Flos cuculi. *Baubin. pin.* 210.

LYCHNIS plumaria sylvestris simplex. *Parkinson. parad.* 253.

ARMERIUS pratensis mas et foemina. *Gerard. Emac.* 600.

Raii Synop. ed. 3. 338. *Hudson. Fl. Angl.* 174. *Oeder. Flor. Dan. tab.* 590. *Scopoli. Fl.*

Carniol. ed. 2. p. 311.

RADIX perennis, fibrosa, ex albido fusca, saporis sub-acris.

CAULIS pedalis ad tripedalem, erectus, fulcato-angulatus, articulatus, geniculi tumidi, scabriusculus, purpurascens.

FOLIA Caulis, opposita, connata, lanceolata, carinata, suberecta, laevia.

PEDUNCULI oppositi, plerumque unico intermedio.

CALYX: PERIANTHIUM monophyllum, tubulatum quinque-dentatum, decangulatum, purpureum, persistens. *fig.* 1.

COROLLA PETALA quinque, unguis longitudine calycis, *fig.* 2. LIMBUS quadrifidus, laciniis exterioribus brevioribus, et angustioribus, *fig.* 4. ad basin limbi laminae duae erectae acutae. *fig.* 3.

STAMINA: FILAMENTA decem, subulata, quorum quinque breviora, *fig.* 5, brevioribus ungui petalorum affixis. *fig.* 6. ANTHERÆ oblongae, biloculares, *fig.* 7. incumbentes, purpurascens.

PISTILLUM GERMEN subovatum, *fig.* 8. STYLI quinque subulati, subincurvati, *fig.* 10. STIGMATA simplicia. *fig.* 10.

PERICARPIUM CAPSULA ovata, unilocularis, ore quinque-dentato, dentibus reflexis. *fig.* 9.

SEMINA numerosa, subcompressa, scabriuscula, ex cinereo-fusca. *fig.* 11. 12.

ROOT perennial, fibrous, of a brownish white colour, and somewhat biting taste.

STALK from one to three feet high, upright, somewhat angular and grooved, jointed, the joints swelled, roughish, and of a purplish colour.

LEAVES of the Stalk opposite, connate, lanceolate, the midrib prominent underneath, upright and smooth.

PEDUNCLES opposite, one generally intermediate.

CALYX a PERIANTHIUM of one leaf, tubular, quinque-dentate, having ten angles, or ridges, and of a deep purple colour.

COROLLA: five petals, the claw the length of the Calyx, *fig.* 2. the LIMB divided into four lacinae, the exterior shortest and narrowest, *fig.* 4. at the bottom of the limb are placed two small upright laminae, *fig.* 3.

STAMINA: ten FILAMENTS, tapering, five long and five short, *fig.* 5. the shorter filaments affixed to the claw of each petal, *fig.* 6. the ANTHERÆ oblong, bilocular. *fig.* 7. laying across the filaments, and of a purplish hue.

PISTILLUM: the GERMEN somewhat oval, *fig.* 8. five STYLES tapering and bending a little inward, *fig.* 10. STIGMATA simple. *fig.* 10.

SEED-VESSEL: a CAPSULE, oval, of one cavity, the mouth having five teeth which turn back. *fig.* 9.

SEEDS numerous, flattish, rough, and of a brown ash colour. *fig.* 11. 12.

A variety of names hath been given to this Plant, as Meadow Pink, Cuckow Flower, Wild Williams, Ragged Robin, &c. Meadow Lychnis however seems to us the most eligible. It abounds in moist Meadows, where it flowers in May and June, and is included amongst the great number of which our Meadow hay is compounded. Goats, Sheep, and Horses are said to feed on it. The use to which it is applied, seems to be chiefly ornamental; the beauty of its flowers justly entitles it (with many other neglected British Plants) to a place in the Gardens of the curious: where it is frequently found with a double flower, making a beautiful appearance, and requiring little more care in its culture, than to be placed in a moist situation: It may be propagated either by seeds or slips; the seeds may be found ripe in the latter end of June, by the sides of ditches, where the Mower's Scythe has not reached them. We sometimes find the Meadow Lychnis growing wild with a double flower, and sometimes with a white one; but this is altogether accidental.

The agreement between the blowing of flowers, and the periodical return of birds of passage, has been attended to from the earliest ages: Before the return of the seasons was exactly ascertained by Astronomy, these observations were of great consequence in pointing out stated times for the purposes of Agriculture; and still, in many a Cottage, the birds of passage and their corresponding flowers assist in regulating

"The short, and simple Annals of the Poor."

For this reason, no doubt, we have several other plants that, in different places, go by the name of Cuckow Flower. Gerard says, Cardamine pratensis (Common Ladies Smock) is the true Cuckow Flower. *Shakespeare's* Cuckow Buds are of "yellow hue." By some the Orchis, Arum, and Wood-forrel are all called after the Cuckow.





Cerastium vulgatum

Cerastium vulgatum. Common Mouse-ear - Chickweed.

CERASTIUM *Linnaei. Gen. Pl. DECANDRIA PENTAGYNIA.*

Calyx 5-phyllus. Petala bifida. Caps. unilocularis, apice dehiscens.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CERASTIUM *vulgatum* foliis oblongo-ovatis, hirsutis, caulibus diffusis, hirsutie nudâ.

CERASTIUM *vulgatum* foliis ovatis, petalis calyci æqualibus, caulibus diffusis. *Lin. Syst. Vegetab. p. 362. Sp. Pl. p. 627. Fl. Suecic. n. 415.*

MYOSOTIS foliis ovato lanceolatis, petalis calycis longitudine. *Haller. Hist. Helv. p. 390. n. 893.*

MYOSOTIS arvensis hirsuta, parvo flore albo. *Vaillant. Paris. 142. t. 30. f. 1.*

ALSINE hirsuta magno flore. *Baubin. pin. 251.*

AURICULA muris quorundam flore parvo, vasculo tenui longo. *I. B. III. 359.*

ALSINE hirsuta myosotis. *Adv. 193. Raii. Syn. p. 349, Narrow-Leaved Mouse-ear Chickweed.*

Hudson. Fl. Angl. p. 175. ed. 2. p. 200.

Lichtfoot. Fl. Scot. p. 240.

RADIX perennis, fibrosa.

CAULES plurimi, diffusi, teretes, purpurascens, hirsuti, ramosi.

FOLIA *hirsuta*, inferiora oblongo-ovata, basi angustata, carinata, connata, superiora ovata, marginibus subrevolutis.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovato-lanceolatis, margine membranaceis, apice purpurascens, hirsutis, *hirsutie nudâ sive glandulis destituta, fig. 1.*

COROLLA: PETALA quinque, alba, obtuse bifida, calyce plerumque longiora, basi flavescentia, *fig. 2.*

STAMINA: FILAMENTA decem, filiformia, corolla breviora; alterna breviora: ANTHERÆ subrotundæ, flavæ, *fig. 3.*

PISTILLUM: GERMEN ovatum: STYLI quinque, capillares, albi, ad basin sensim tenuiores: STIGMATA simplicia, *fig. 4.*

PERICARPIUM: CAPSULA ovato-cylindracea, membranacea, paululum recurvata, calyce duplo fere longior, ore decemdentato.

SEMINA plurima, flavescentia, ad lentem scabriuscula, *fig. 5, 6.*

ROOT perennial and fibrous.

STALKS numerous, spreading, round, purplish, hirsute, and branched.

LEAVES *hirsute*; the lowermost of an oblong oval shape, narrowed at the base, midrib projecting on the under side, uniting around the stalk; the uppermost leaves oval, the edges somewhat rolled back.

CALYX: a PERIANTHIUM of five leaves, which are oval and pointed, membranous at the edges, and purplish at top, *covered with hairs which have no glands at their extremities, fig. 1.*

COROLLA: five white PETALS, bluntly notched at top, generally longer than the calyx, yellowish at bottom, *fig. 2.*

STAMINA: ten FILAMENTS, thread-shaped, and shorter than the corolla; the alternate ones shortest; ANTHERÆ roundish, and yellow, *fig. 3.*

PISTILLUM: GERMEN roundish: STYLES five, very slender and white, gradually lessening to the bottom: STIGMATA simple, *fig. 4.*

SEED-VESSEL: a CAPSULE ovally-cylindrical, membranous, turning up a little, almost twice the length of the calyx, the mouth opening with ten teeth.

SEEDS numerous, yellowish, appearing roughish when magnified, *fig. 5, 6.*

THE *Cerastium vulgatum* is often confounded with the two species already figured in this work; viz. the *viscosum* and *semidecandrum*. The attentive botanist will, however, readily distinguish it; particularly when assisted by the following observations.

First, this species is certainly perennial; and although it has only a small fibrous root, it continues through the winter, and from the same root throws out new shoots; while the other two are strictly annual. Secondly, the hairs on the stalks, leaves, and calyx, are much longer and coarser, than in either of the other two; and what particularly deserves to be noticed, they are not terminated at the extremity by a viscous globule, a character alone sufficient to distinguish it.—And thirdly, it is not only a larger and more spreading plant, but also with respect to situation more universally common.

It is subject to many variations; sometimes being very hirsute, at other times but thinly covered with hairs; and it is said to have been found by Doody quite smooth.† It differs in size from an inch to two feet. In the breadth of its leaves also, like the *Polygonum aviculare*, it varies very considerably. The blossoms likewise are subject to vary in size. In general, the stronger the plant the smaller the petals, and vice versa; hence by the size of its petals alone, it is sufficiently distinguished on heaths, where it frequently grows about two inches in height, and is often taken for the *semidecandrum*.

The name given to this plant by Monsieur VAILLANT, is certainly improper; the petals being often twice as large as either of the other two. There is one point also in which LINNÆUS's observation does not accord with ours: in comparing the leaves with those of the *viscosum*, he says they are *minus lanceolata magisque ovata*, the reverse of which is generally observable in our plant.

It comes fully into bloom about May; but may be found in blossom during the whole of the summer. It grows not only on walls, but also by the sides of roads, in meadows, and among rubbish. Like the other *Cerastiums*, it is not known to be particularly noxious in agriculture; nor has it any virtues to recommend it.





CERASTIUM VISCOSUM. BROAD-LEAVED MOUSE-EAR CHICKWEED.

CERASTIUM *Linnaei Gen. P.* DECANDRIA PENTAGYNIA.

Cal. 5-phyllus. *Petala* bifida. *Caps.* unilocularis apice dehiscens.

Rai Syn. Gen. 24. HERBÆ PENTAPETALA VASCULIFERÆ.

CERASTIUM *viscosum* erectum villoso-viscosum. *Linnaei Syst. Vegetab. p.* 362. *Fl. Suecic. n.* 414.

MYOSOTIS hirsuta et viscosa. *Haller hist. n.* 895.

MYOSOTIS hirsuta altera viscosa. *Vaill. Paris. 142. t.* 30. *fig.* 1.

ALSINE hirsuta altera viscosa. *C. Baubin. pin.* 251.

ALSINE viscosa. *Parkinson.* 768.

ALSINE hirsuta Myosotis latifolia præcocior. *Cat. angl.*

ALSINE Myosotis humilior et rotundo folio. *Merret. pin.* The Broader-leaved Mouse-ear Chickweed,
Raii Syn. p. 348. *Hudson. Fl. Angl. p.* 175.

RADIX annua.

CAULIS palmaris ad pedalem, basi ramosus, medius caulis erectus, laterales ascendentes, dichotomus, pilis glanduliferis vestitus, unde sub viscosus evadit.

FOLIA ovata, subconnata, villoso-viscosa, ad inferiorem partem caulis basi angustiora, e flavo viridescencia.

FLORES in summitatibus caulium plantâ adhuc infantili arcte stipantur, ad quindecim aut plures.

CALYX PERIANTHIUM pentaphyllum, foliolis ovato-acuminatis, longitudine petalorum, apice purpurescentibus, viscoso-pilosis, *fig.* 1.

COROLLA: PETALA quinque alba, oblonga, angusta, basi villosa, apice bifida, *fig.* 2.

STAMINA: FILAMENTA decem, subulata, quorum quinque longiora, basi glandulâ instructa, *fig.* 3, 6.

PISTILLUM: GERMEN ovatum: STYLI quinque villosi germine breviores: STIGMATA obtusiuscula, *fig.* 4, 5.

PERICARPIUM: CAPSULA corniformis, ore decemdentato calyce dimidio longiore, *fig.* 7.

SEMINA plurima, flavescencia, suborbiculata, crenulata, *fig.* 8, 9.

ROOT annual.

STALK from three inches to a foot in height, branched at bottom, the middle stalk upright, the side ones bending upward, forked at top, covered with numerous hairs, each of which is terminated by a gland, whence it becomes slightly viscid.

LEAVES oval, slightly connate, hoary with a little clamminess, at the bottom of the stalk narrower at the base, of a yellowish green colour.

FLOWERS, while the plant is young, are closely crowded together on the tops of the stalks to the number of fifteen or more.

CALYX: a PERIANTHIUM of five leaves, which are of an oval pointed shape, the length of the petals, purplish at top, and covered with viscid hairs, *fig.* 1.

COROLLA: five white PETALS, oblong, narrow, at bottom villous, bifid at top, *fig.* 2.

STAMINA: ten FILAMENTS, tapering, of which five are longer than the others, and furnished at bottom with a small gland, *fig.* 3, 6.

PISTILLUM: GERMEN oval: STYLES five, villous, shorter than the germen: STIGMATA bluntish, *fig.* 4, 5.

SEED-VESSEL a CAPSULE, horn-shaped, twice the length of the calyx, the mouth furnished with ten teeth, *fig.* 7.

SEEDS several, yellowish, roundish, and notched, *fig.* 8, 9.

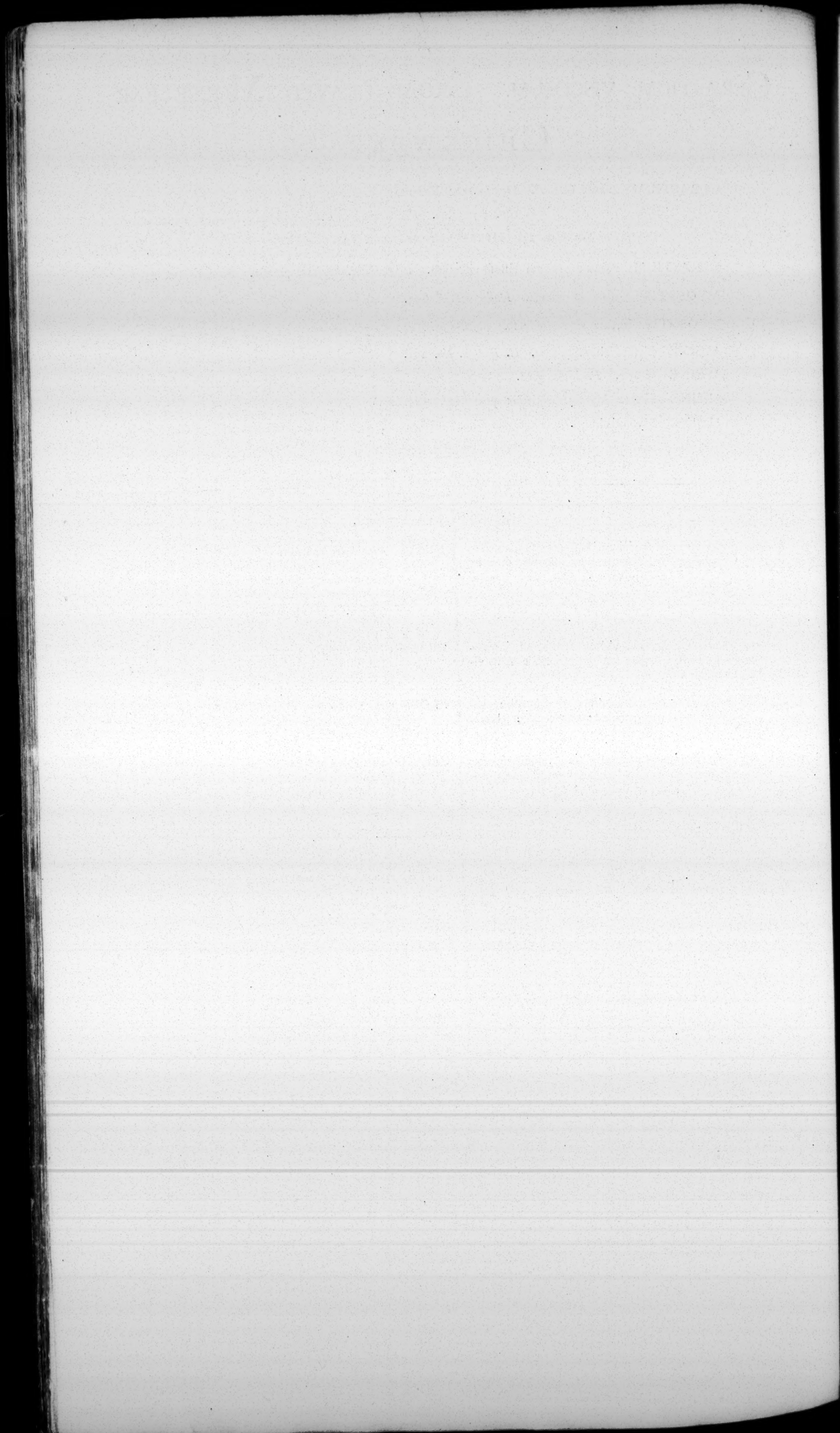
AMONG the plants which are with difficulty distinguished by the young Botanist, we may properly reckon three of our common *Cerastiums*, viz. the *viscosum*, *vulgatum*, and *semidecandrium*, as all of them have some similarity in their appearance, occur frequently in the same situations, and are subject to be much altered in their appearance, according to the soil and situation in which they grow.

The figure which is here given of the *viscosum*, represents that plant in its medium state; on walls it is found much smaller; in meadows it is found much larger; and in both these situations, as well as on dry banks and ant hills, it occurs very plentifully, and flowers in the months of April and May, being one of the earliest in bloom.

It is distinguished from the others by the upright manner of its growing, by its broad hoary leaves, the narrowness of its petals, and the crowded or clustered appearance of its flowers before they blow: its leaves also in general are of a paler colour than the rest.

It is not remarked for any particular use; neither is it noxious to the Farmer or Gardener.

LINNÆUS observes that the plant is liable to be much disfigured by a species of *Chermes*.







Cerastium arvense.

CERASTIUM ARVENSE. CORN CERASTIUM or MOUSE-EAR CHICKWEED.

CERASTIUM *Lin. Gen. Pl.* DECANDRIA PENTAGYNIA.

Cal. 5-phyllus. *Petala* bifida. *Capf.* unilocularis apice dehiscens.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CERASTIUM *arvense* foliis lineari-lanceolatis, obtusis, glabris; corollis calyce majoribus. *Lin. Syst. Vegetab. p.* 436. *Sp. Pl. p.* 628. *Fl. Suec. n.* 417.

MYOSOTIS foliis linearibus, lanceolatis, petalis calyce duplo longioribus. *Hall. Hist.* 889.

MYOSOTIS *arvensis* hirsuta flore majore. *Vaill. Paris.* 141. t. 30. f. 4.

CENTUNCULUS *arvensis* hirsutus flore majore. *Bauh. Pin.* 210. *Raii Syn.* 348, Long-leav'd rough Chickweed with a large flower.

CARYOPHYLLUS *holosteus*. *Ger. emac.* 595. *arvensis* hirsutus. *Parkins.* 1339. *Huds. Fl. Angl. ed. 2. p.* 201. *Lightfoot Fl. Scot. p.* 241.

RADIX perennis, filamentoso-fibrosa, repens.

CAULES *steriles* plurimi, palmares et ultra, laxe cespitosi, inferne prostrati, sæpius repentes, postea erecti, basi subramosi, deorsum pilosi; caulis florifer sæpe duplo altior, validior; strictus, superne ramosus, pilis minutis, horizontalibus, glandulosis subviscosus, omnes teretes, geniculati, ad geniculos sensim subincrassati.

FOLIA saturate viridia, sessilia, opposita, subconnata, patentia, subreflexa, lineari lanceolata, acutiuscula, supra pilosiuscula, pilis sursum spectantibus, subtus lævia, margine ciliata, ciliis recurvis.

PEDUNCULI e dichotomia caulis, solitarii, binati, ternati, erecti, uniflori; *stipulis* binis, oppositis, ovatis, acutis, concavis, margine membranaceis.

FLORES albi, terminales, erecti, magni.

CALYX: PERIANTHIUM pentaphyllum, persistens foliolis lanceolatis, acutis, subconcavis, pilosiusculis, margine membranaceis, *fig.* 1.

COROLLA: PETALA 5, cordiformia, patentia, versus marginem parum reflexa, ad medium fere bifida, tenera, alba, lineis hyalinis radiatim striata, calyce duplo longiora, *fig.* 2.

STAMINA: FILAMENTA decem, filiformi-subulata, corolla breviora, alterna breviora; ANTHERÆ ovales, luteæ, *fig.* 3.

PISTILLUM: GERMEN globosum; STYLI quinque, capillares, subreflexi; STIGMATA obtusa, *fig.* 4.

PERICARPIUM: CAPSULA ovato-cylindracea, calyce longior, ore decemdentato, *fig.* 5.

SEMINA plurima, rufescentia, *fig.* 6.

ROOT perennial, with thready fibres, creeping.

STALKS which bear no flowers, numerous, a hand's-breadth or more in length, forming a kind of loose turf, below prostrate and mostly creeping, afterwards upright, somewhat branched at the base, hairy, hairs turned downward, the flowering stem often twice as high, stronger, straight, branched above, somewhat viscid with minute glandular hairs, both kinds round, jointed, thickened gradually towards the joints.

LEAVES deep green, sessile, opposite, somewhat united at bottom, spreading, frequently turned back, betwixt linear and lanceolate, rather pointed, hairy on the upper side, hairs pointing upwards, on the under side smooth, edge fringed with hairs crooked backwards.

FLOWER-STALKS from the forking of the stalk, growing singly, or divided into two's or three's, upright, one-flowered, *stipulæ* in pairs, opposite, ovate, acute, concave, membranous on the edge.

FLOWERS white, terminal, upright, and large.

CALYX: a PERIANTHIUM of five leaves, permanent, lanceolate, pointed, a little hollow, somewhat hairy and membranous on the edge, *fig.* 1.

COROLLA: 5 PETALS, heart-shaped, spreading, turned back a little towards the edge, divided almost to the middle into two segments, tender, white, striated with transparent lines in the form of rays, twice the length of the Calyx, *fig.* 2.

STAMINA: ten FILAMENTS, slightly tapering, shorter than the corolla, the alternate ones shortest; ANTHERÆ oval and yellow, *fig.* 3.

PISTILLUM: GERMEN globular; STYLES five, very slender and somewhat reflexed; STIGMATA blunt, *fig.* 4.

SEED-VESSEL: a CAPSULE betwixt ovate and cylindrical, longer than the calyx, the mouth having ten teeth, *fig.* 5.

SEEDS numerous, reddish brown, *fig.* 6.

A rare plant in the neighbourhood of London, not uncommon about Croydon, and very plentiful about Bury in Suffolk; affects dry situations; is found on sand banks, walls, and in corn-fields; flowers with us early in June.

Is distinguished from all the other *Cerastiums* growing with us, by its large flowers, deep green leaves, which appear smooth at a distance, and powerfully creeping roots and stalks.

A few roots of this species planted on a bank in my garden, Lambeth-Marsh, covered with stones in imitation of rock-work, soon increased so as wholly to overpread a great part of it, and in a few years penetrating through to the north side of the bank, supplanted the *Saxifraga hypnoides*, with a fine coat of which it was on that side thickly covered.—We have seen it penetrate the mortar of a brick wall, and have found that there is scarcely a plant of its size it will not overcome. We mention these circumstances, not only as they tend to illustrate a part of the oeconomy of the plant, but that persons may be on their guard how they introduce it, or such like encroaching plants, on any kind of rock-work they do not wish them wholly to cover.

It varies in the smoothness of its leaves.





Cerastium semidecandrium

Cerastium femidecandrum. Least Mouse-ear Chickweed.

CERASTIUM *Linnaei Gen. Pl.* DECANDRIA PENTAGYNIA.

Cal. 5-phyllus. *Petala* bifida. *Caps.* unilocularis, apice dehiscens.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CERASTIUM *femidecandrum* floribus pentandris, petalis emarginatis. *Lin. Syst. Vegetab.* p. 362.

Sp. Pl. 627. *Fl. Suecic.* n. 416.

MYOSOTIS caule simplici, foliis ovatis, hirsutis, tubis ternis. *Haller. hist.* n. 894.

CENTUNCULUS femidecander. *Scopoli. Fl. Carniol.* n. 549.

MYOSOTIS arvensis hirsuta minor. *Vaillant. tab.* 30. fig. 2.

CERASTIUM hirsutum minus parvo flore. *Raii Syn. ed.* 3. t. xv. fig. 1. *Hudson. ed.* 2. p. 200. *Lightf.* p. 241.

RADIX annua, fibrosa, albida.

CAULIS in locis siccissimis simplex, biuncialis, erectus; saepius vero ramosus, aut pluribus cauliculis compositus, sicut in icone exprimitur; primo vere cauliculi supra muros aut terram expanduntur, tandem suberecti, triunciales, aut etiam semipedales fiunt, colore purpurascente, et pilis glanduliferis vestiti.

FOLIA radicalia oblongo-ovata, prope apicem dilatata, acuta, puncto rufo terminata, basi angustata, connata, leviuscula, medio per longitudinem fulcata, caulina ovata, villosa.

BRACTEÆ duæ, concavæ, viscosæ, membranâ marginatæ, sub singulâ dichotomiâ caulis.

FLORES albi, pedunculati, subcorymbosi.

PEDUNCULI villosi, ad basin paululum incrassati, florescente plantâ longitudine calycis, erecti; peractâ florescentiâ deorsum flectuntur, et duplo longiores evadunt, demum eriguntur.

CALYX: PERIANTHIUM pentaphyllum, foliolis lanceolatis, membranâ acuminatâ Corolla longiore terminatis, viscosis, fig. 1, 2.

COROLLA: PETALA quinque, oblonga, calyce breviora, apice acutè emarginata, saepe erosa, fig. 3, 4.

STAMINA: FILAMENTA plerumque quinque, subinde sex, raro plura, alba, Corollâ breviora: ANTHERÆ subrotundæ, flavescentes, fig. 5.

PISTILLUM: GERMEN ovatum: STYLI quinque, capillares, albi, villosi: STIGMATA simplicia, fig. 6, 7.

PERICARPIUM: CAPSULA membranacea, scariofa, quinquenervis, ore decedentato, fig. 8.

SEMINA plurima, minima, ovata, flavescentia, fig. 9, 10.

ROOT annual, fibrous, of a whitish colour.

STALK in very dry places is simple, upright, and about two inches high; but more commonly is branched, or composed of numerous small stalks, as expressed in the figure: these early in the spring, are expanded on the walls or earth, finally become nearly upright, three inches, or sometimes even six inches high, of a purplish colour, and covered with hairs having glands at their extremities.

LEAVES near the root of an oblong oval shape, dilated near the top, terminating in a sharp red point, narrower towards the base, and uniting around the stalk, nearly smooth, and grooved down the middle: those of the stalk oval and villous.

FLORAL-LEAVES two, hollow, viscous, and edged with a membrane, placed under each division of the stalk.

ELOWERS white, standing on foot-stalks, and forming a kind of Corymbus.

FLOWER-STALKS villous, and thickened a little at bottom, while the plant is in flower the length of the Calyx, and upright, the flowering over they are bent backward, and become twice as long, finally they again become upright.

CALYX: a PERIANTHIUM of five leaves, lanceolate, viscous, and terminated by a pointed membrane, which is longer than the Corolla, fig. 1, 2.

COROLLA: five PETALS, which are oblong, and shorter than the Calyx, sharply cut in at top, and often appearing jagged, fig. 3, 4.

STAMINA: FILAMENTS generally five, now and then six, seldom more, white, shorter than the Corolla: ANTHERÆ nearly round, of a yellowish colour, fig. 5.

PISTILLUM: GERMEN oval: STYLES five, very fine, white, and villous: STIGMATA simple, fig. 6, 7.

SEED-VESSEL, a membranous CAPSULE, sonorous when touched, having five ribs, the mouth opening with ten teeth, fig. 8.

SEEDS numerous, very minute, oval and yellowish, fig. 9, 10.

MUCH praise is due to the great LINNÆUS, for the accuracy with which he has described the more common *Cerastiums*, and particularly the present species. To Monsieur VAILLANT the public are also much indebted, for the accurate and elegant figures, which he has given of them in his *Flora Parisiensis*.

In the third edition of RAY's *Synopsis*, the *femidecandrum* is added by DILLENUS, who has there given a figure of it, which, although expressive of the plant as it commonly grows on heaths, yet tends to mislead the student with an idea, that minuteness is its chief characteristic: the description also has a similar tendency. It says, that the stalks are not viscous, and that it flowers somewhat later than the *viscosum*; whereas in both, the stalks are evidently viscous towards the upper part; the *femidecandrum* also flowers equally early; and instead of being less branched, as is there asserted, it is in a common way more so. It is true that both species, when they grow in very barren places, (and in which this species seems chiefly to have been sought for,) have only a simple stalk, and often do not arise to the height of two inches.

The *femidecandrum* is a much more common plant than is generally imagined; and is distinguished, particularly when in blossom, from all the other *Cerastiums* with the greatest facility.

There is scarce a wall or heath around town, on which this plant may not be found in abundance; particularly about Hackney; as also under Greenwich Park Wall, facing Black-heath, as well as on the heath itself. It comes into blossom soon after the *Draba verna*, and, like that plant, soon disappears.

It may be distinguished from the *Cerastiums*, when in blossom, by having only five stamina, whence its name. I have sometimes found more; but this number is sufficiently constant to form a very good specific character. LINNÆUS remarks its having ten stamina, five of which produce no Antheræ: these I must confess never to have seen. SCOPOLI observes, that he always found it with ten stamina, and attributes the want of Antheræ in LINNÆUS's five, to the five exterior ones quickly losing their Antheræ. It is possible that in *Carniola*, this plant may occur with ten stamina; but here, like the *Alpine*, it certainly loses one half of them.

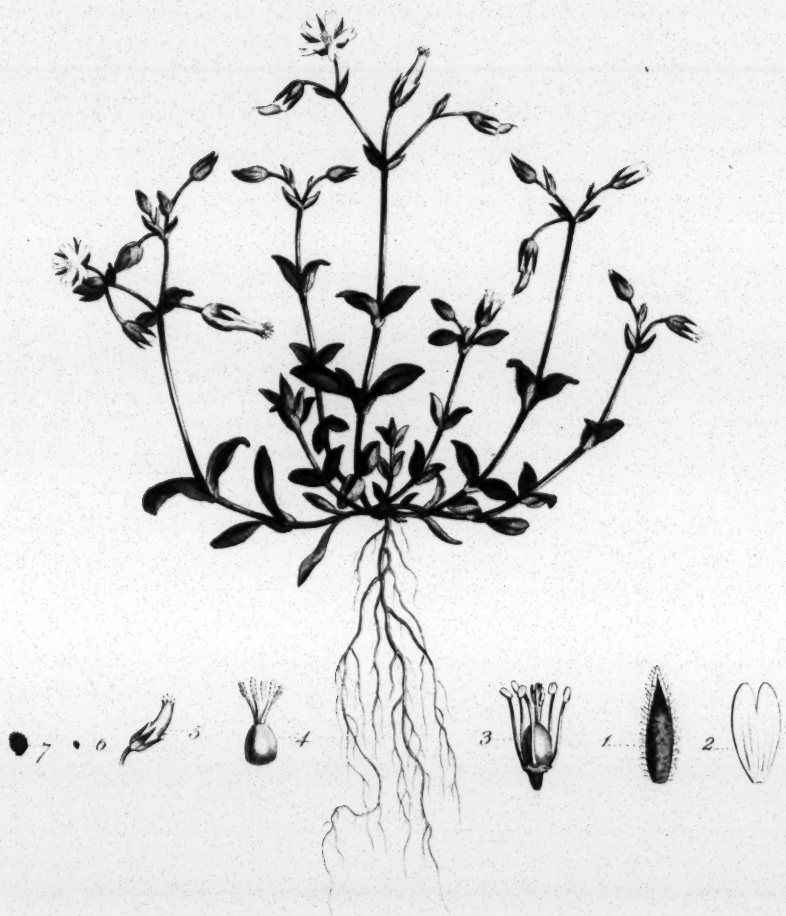
The petals form a more invariable character, being always shorter than the calyx, acutely cut in at top, as if a piece had been taken out with a pair of scissors, and frequently irregularly jagged or gnawed: they are also much broader than those of the *Cerastium viscosum*.

The calyx too is often of considerable use in determining this species, (as it may be observed when neither the stamina or petals are visible,) at least from the *vulgatum*, its leaves being very thickly covered with hairs, having glands at their extremities, vid. fig. 1, 2. which glands are altogether wanting in the *vulgatum*. The membrane also, which terminates the leaves of the calyx, is remarkably long in this species.

These circumstances, if attended to, together with the remarks to be hereafter made on the *Cerastium vulgatum*, will, it is hoped, enable the student to investigate these plants, and fix them with certainty.

No virtues are attributed to it: and it is too inconsiderable to be noxious in agriculture.





Cerastium pumilum

CERASTIUM PUMILUM.

DWARF CERASTIUM.

CERASTIUM. *Linn. Gen. Pl.* DECANDRIA PENTAGYNIA.

Cal. 5-phyllus. *Petala* 2-fida. *Capsf.* 1-ocularis, apice dehiscens.

Rati Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CERASTIUM *pumilum* floribus pentandris, petalis bifidis longitudine calycis, capsula calyce duplo longiore.

To the lyncean eye of Mr. DICKSON we are indebted for the discovery of this species of Cerastium, so very nearly related to the *femidecandrum*, that if the two plants had not been seen wild on the same bank, they might long have been regarded as one and the same species; having raised it from seeds, observed it in all its states, and compared it, as it has proceeded in its growth, with the *Cerastium femidecandrum*, we do not hesitate to publish it as a species perfectly distinct. For want of a more appropriate name, we have assigned it that of *pumilum*.

It agrees with the *Cerastium femidecandrum* in being about the same size, usually a little smaller, having nearly the same habit, the same number of stamina, and in being also an annual; but differs from it in the following particulars.

The whole plant, but more especially the stalks and leaves, are more evidently hairy, being indeed perfectly hirsute, nearly as much so as in the *vulgatum*; the flowers are considerably larger, the petals being nearly twice the size, fully as long, or rather longer than the calyx, of course more fleshy, more conspicuous also from their superior whiteness, regularly bifid or divided down one third, so that they greatly resemble those of the *vulgatum*, *viscosum*, and most others of the same genus; the seed-vessels are much longer, and more tapering, for the most part twice the length of the calyx, but not always so; the character most to be depended on consists in the form, length, and division of the petals; its superior hairiness is also a good *prima facie* character; the hairs on the branches, it is to be observed, are equally viscous as in the *femidecandrum*; the seeds in the *pumilum* are larger, of a darker brown colour, and rougher.

Mr. DICKSON found this species, which may perhaps be more common than we are aware, on dry banks near Croydon.

It begins to flower as early as February and March, rather sooner than the *femidecandrum*, and ripens its seeds in May.

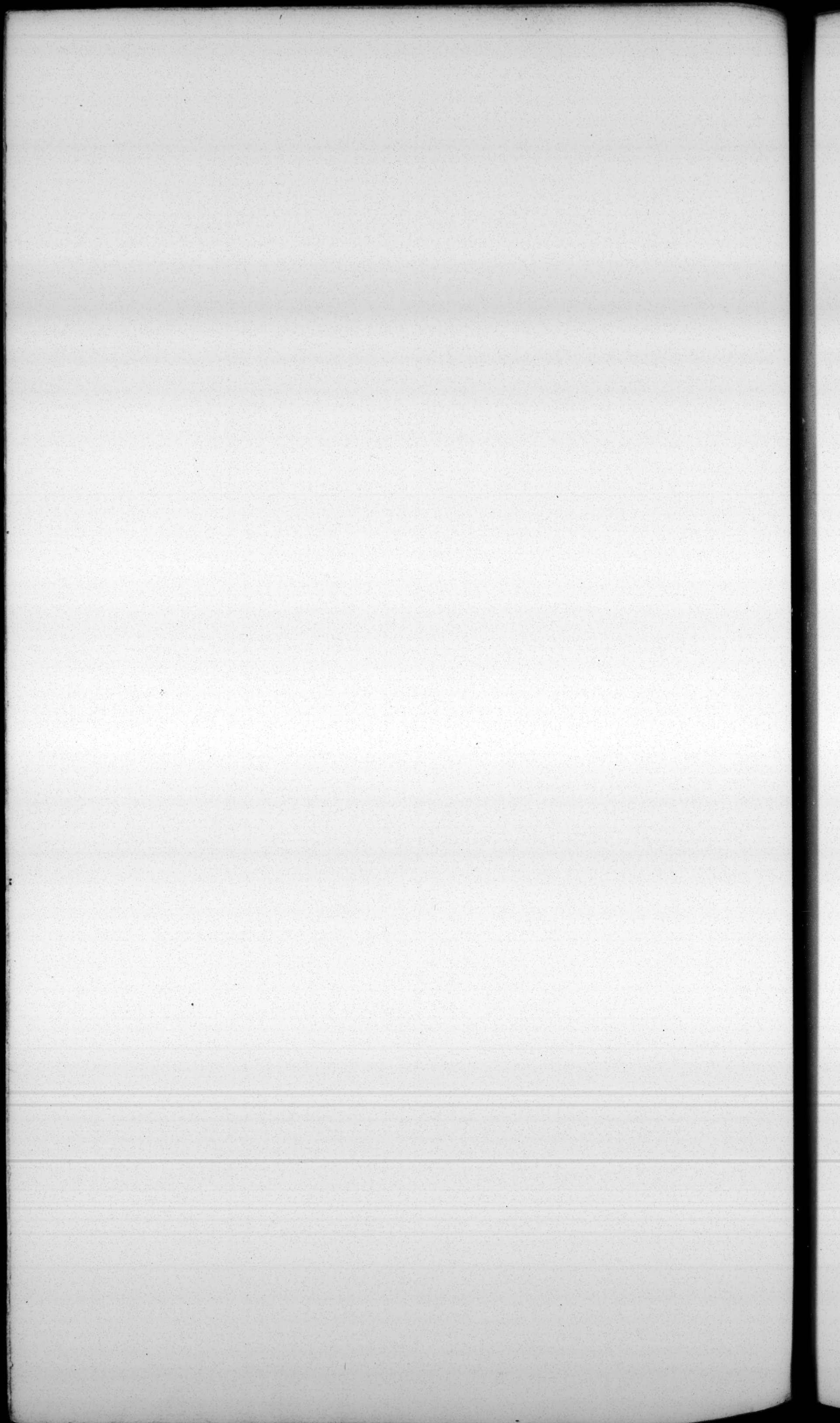
Slugs and snails are so extremely fond of the plant, that it is with great difficulty kept where they abound.

Partes Fructificationis.

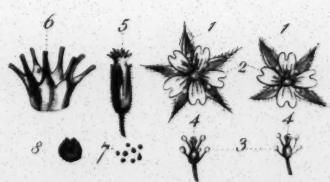
- Fig. 1. Calycis foliolium auct.
2. Petalum.
3. Stamina cum pistillo.
4. Pistillum.
5. Capsula magnit. nat.
6. Semen magnit. nat.
7. Semen auct.

Parts of the Fructification.

- Fig. 1. One of the leaves of the Calyx magnified.
2. A Petal.
3. The Stamina with the Pistillum.
4. The Pistillum.
5. A Capsule of its natural size.
6. A Seed of its natural size.
7. The same magnified.







Cerastium tetrandrum.

S. Edwards del. E. Sangem sculp.

CERASTIUM TETRANDRUM. TETRANDROUS CERASTIUM, or MOUSE-EAR CHICKWEED.

CERASTIUM. Linn. Gen. Pl. DECANDRIA PENTAGYNIA.

Cal. 5-phyllus. Petala 2-fida, Caps. 1-locularis apice dehiscens.

Raii Syn. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CERASTIUM *tetrandrum* caule diffuso dichotomo, floribus plerisque tetrandris, capsula calycem vix superante.

SAGINA *cerastoides* caule diffuso dichotomo, foliis spatulatis obovatifve recurvis, pedunculis fructiferis reflexis. Smith. Transf. Linn. Soc. v. 2. p. 343.

RADIX annua, fibrosa.

CAULES plures, palmaris et ultra, diffusi, teretes, villosi, subviscidi, purpurascens, dichotomi, ramosissimi.

FOLIA opposita, sessilia, subconnata, patenti-recurvata, integerrima, hirsutula, subtus pallidiora et minus hirsuta, inferiora ovato-lanceolata, ad basin angustiora, superiora ovata, acuta.

FLORES tetrandri et pentandri in eadem planta, plerique vero tetrandri, solitarii, e dichotomia caulis, pedunculati.

PEDUNCULI filiformes, viscidi, ad basin tumidi, post florescentiam reflexi, maturato semine sub-erecti.

CALYX: PERIANTHIUM 4-5 phyllum, persistens, foliolis lanceolatis, acuminatis, hirsutulis, viscidis, duobus paulo angustioribus, margine membranaceis, fig. 1.

COROLLA PETALA 4-5, calyce breviora, alba, nitidula, unguibus flavescens, striata, bifida, lobis rectis, acutiusculis, fig. 2.

STAMINA: FILAMENTA 4-5, subulata, alba, longitudine stylorum; ANTHERÆ lutescentes, fig. 3.

PISTILLUM: GERMEN turbinatum, læve, virescens; STYLI 4-5, erecti, albi, villosuli; STIGMATA obtusa, fig. 4.

PERICARPIUM: CAPSULA oblonga, calyce paulo longior, 8-10 dentata, fig. 5, 6.

SEMINA plurima, minuta, fusca, fig. 7, 8.

ROOT annual, and fibrous.

STALKS numerous, about six inches in length, spreading on the ground, round, villous, with some viscidility, purplish, dichotomous, and very much branched.

LEAVES opposite, sessile, somewhat connate, spreading, bending back, perfectly entire, slightly hirsute, paler, and less hairy on the under side, the lowermost ovato-lanceolate, the uppermost ovate, and pointed.

FLOWERS tetrandrous and pentrandrous in the same plant, but mostly tetrandrous, solitary, from the fork of the stalk, on peduncles.

PEDUNCLES filiform, viscid, tumid at the base, when the flowering is over bent back, when the seed is ripened becoming upright.

CALYX: a PERIANTHIUM of four or five leaves, continuing, leaves lanceolate, acuminate, slightly hirsute, viscid, membranous on the edge, two of them somewhat narrower than the others, fig. 1.

COROLLA: PETALS four or five, shorter than the calyx, white, a little glossy, claws yellowish, striated, bifid, the lobes straight, a little pointed, fig. 2.

STAMINA: FILAMENTS four or five, subulate, white, the length of the styles; ANTHERÆ yellowish, fig. 3.

PISTILLUM: GERMEN top-shaped, smooth, greenish; STYLES four or five, upright, white, somewhat villous; STIGMATA blunt, fig. 4.

SEED-VESSEL: an oblong CAPSULE, a little longer than the calyx, having eight or ten teeth, fig. 5, 6.

SEEDS numerous, minute, and brown, fig. 7, 8.

As the present plant, in its general habit and structure, so obviously proclaims itself to be a *Cerastium*, we were surprised to find that the President of the Linnæan Society had regarded it as a *Sagina*, a genus to which it has very little affinity, except in the number of its petals, stamens, and styles; supposing it to be always found, as he asserts it is to be, with *floribus quadrifidis*, or, as would have been perhaps more scientifically expressed, *floribus tetrapetalis*; but admitting the fact to be so, which it is not in reality, a difference merely in the number of its parts surely would not make it the less a *Cerastium*; if it would, the *semidecandrum* and *pumilum*, already figured in this work, would not be such, as they have only half their proper number of stamens: that the specimens which Dr. SMITH examined were all tetrandrous we readily believe, and have no doubt but we shall obtain equal credit when we assert, that in the living plant from whence our drawing was made, nearly the fourth part of the flowers were pentandrous; in the form and structure of the seed-vessel, a part which forms the striking character of a *Cerastium*, *vid. GÆRTNER*, our plant is not deficient, and the seeds (when magnified) correspond in form with all the others of the genus, *vid. fig. 8*.

The flowers of this plant expand, as the influence of the sun is more or less powerful, without any regard to the particular time of the day; after they have been prevented from opening by a wet cloudy day, we have seen them expand partially on the sun's shining on them so late as seven in the evening: its peduncles, as in *Alpine*, *Holostea*, and some others of the *Cerastiaceae*, bend back when the flowering is over, and become erect as the seed ripens.

Besides the difference in the number of its stamens, this plant differs from *semidecandrum* and *pumilum*, in being much larger, and more procumbent; in the latter character it differs wholly from *viscosum*, to which it has some affinity, in the breadth of its foliage; the mouth of the capsule opens usually with eight teeth, the flower, which has five petals, is found with ten; those teeth, when magnified, appear somewhat truncated, and their edges turn back, *vid. fig. 6*.

Mr. DICKSON, the fortunate discoverer of *Cerastiaceae*, found this plant growing abundantly on the Island of Inch-Keith in the Firth of Forth, and on the sea-shore below Preston-Pans; it is not likely that this species, or the *pumilum*, should be confined within the narrow limits of growth which we at present assign them; as the several species are more minutely attended to, they will (we may venture to predict) be found abundantly elsewhere.

It flowers in May and June, and grows readily from seeds, which should be sown in Autumn.





Cerastium aquaticum.

CERASTIUM AQUATICUM. MARSH CERASTIUM OR MOUSE-EAR CHICKWEED.

CERASTIUM *Linnaei Gen. Pl.* DECANDRIA PENTAGYNIA.

Raii Synop. Gen: 24 HERBÆ PENTAPETALÆ VASCULIFERÆ.

CERASTIUM *aquaticum* foliis cordatis, sessilibus, floribus solitariis, fructibus pendulis. *Linnaei Syst.*

Vegetab. p. 363. Fl. Suecic. p. 157.

ALSINE foliis ovato-cordatis, imis petiolatis, tubis quinis. *Haller. hist. n. 885.*

STELLARIA aquatica. *Scopoli Fl. Carniol. p. 320.*

ALSINE aquatica major. *Baubin. pin. 254.*

ALSINE major. *Gerard emac. 611. maxima Parkinson 759. Raii Syn. p. 347. Hudson Fl. Angl. p. 177.*

RADIX perennis, fibrosa, repens.

CAULES bipedales, debiles, pene teretes, teneri, filosi, hirsuti, ramosi, rami alterni.

FOLIA Caulis sessilia, amplexicaulia, cordato-acuminata, margine in superioribus presertim undulata, lævia, subviscida; ramorum magis undulata, petiolata.

PEDUNCULI alterni, e dichotomia caulis, uniflori, post florescentiam penduli.

CALYX: PERIANTHIUM pentaphyllum, persistens, foliolis lanceolatis, concavis, subcarinatis, apice obtusiusculis, hirsutis, margine membranaceis, petalis paulo brevioribus. *fig. 1.*

COROLLA: PETALA quinque alba, patentia, bipartita, laciniis oblongis, nervosis, divaricantes, *fig. 2. 3.*

STAMINA: FILAMENTA decem, subulata, alba, receptaculo inserta, ad basin et inter petala alterne locata, *fig. 4.* quæ inter petala locantur paulo longiora sunt et glandula ad basin instruuntur *fig. 5.* ANTHERÆ infidentes, biloculares, albæ, *fig. 4.*

PISTILLUM: GERMEN subrotundum, apice fulcatum, STYLI quinque albi, filiformes, longitudine Germinis. STIGMATA simplicia, *fig. 6.*

PERICARPIUM: CAPSULA ovata, obsolete pentagona, ore quinqueidentata. *fig. 7.*

SEMINA rufa, subreniformia, scabra, 60 numeravi, *fig. 8. 9.*

ROOT perennial, fibrous, and creeping.

STALKS about two feet in length, weak, almost round, tender, stringy, hirsute, and branched, the branches alternate.

LEAVES of the Stalk sessile, embracing the Stalk, somewhat heart shaped and acuminate, the edge particularly in the upper ones waved, smooth, and somewhat viscid; those of the branches more waved with short footstalks.

FOOTSTALKS alternate, from the forking of the Stalk, uniflorous, after the blossom is gone off pendulous.

CALYX: a PRIANTHIUM of five leaves, persisting, the leaves lanceolate, concave, slightly keel-shaped, bluntish at top, hirsute, at the edge membranous, and a little shorter than the Petals, *fig. 1.*

COROLLA: five PETALS white, spreading, divided almost to the bottom, the laciniæ or segments oblong, nervous, and divaricating, *fig. 2. 3.*

STAMINA: ten FILAMENTS, tapering, white, fixed to the receptacle, placed alternately, one at the base and one betwixt each petal, *fig. 4;* those placed between the petals are a little longer than the others, and furnished at bottom with a gland, *fig. 5.* ANTHERÆ white and bilocular, *fig. 4.*

PISTILLUM: GERMEN roundish, at top grooved, five STYLES thread-shaped, white, the length of the Germen. STIGMATA simple, *fig. 6.*

SEED-VESSEL: an oval CAPSULE, slightly pentangular, the mouth quinqueidentate.

SEEDS reddish brown, rough, about 60 in each capsule, *fig. 8. 9.*

SOME of our modern and most celebrated systematic Botanists seem very much divided with respect to the Genus to which this Plant should belong. HALLER makes it an *Alsine* or *Chickweed*; SCOPOLI a *Stellaria*, and LINNÆUS a *Cerastium*. We shall not pretend to decide who is most in the right, but only observe that its general habit or appearance, and the form of its seeds, might easily induce HALLER to consider it as an *Alsine*; the shape of its petals, with the structure of its seeds, would justify SCOPOLI in calling it a *Stellaria*, while the number of its styles might lead LINNÆUS with propriety to place it among the *Cerastiums*. To us it appears to have the greatest natural affinity with the *Alsine media* or common *Chickweed*; it is true LINNÆUS ranks that plant among those which have five Stamina, yet it is frequently observed to have more, and the structure of the flower evidently shows it to be formed for having ten, and those flowers which have not that number may be considered as imperfect. The Seeds of these two plants are so similar as scarcely to be distinguished from each other, and their stalks are procumbent, tender, brittle, and stringy, indeed they frequently so much resemble one another, as to oblige the young Botanist to have recourse to the very different size of their flowers in order to discriminate them.

This Plant grows in moist places, on the banks of rivers and by streams of water, it flowers in July and August. SCOPOLI asserts that the plants of this kind afford excellent food for Kine.

CERASTIUM AQUATICUM

MOUSE EAR

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.

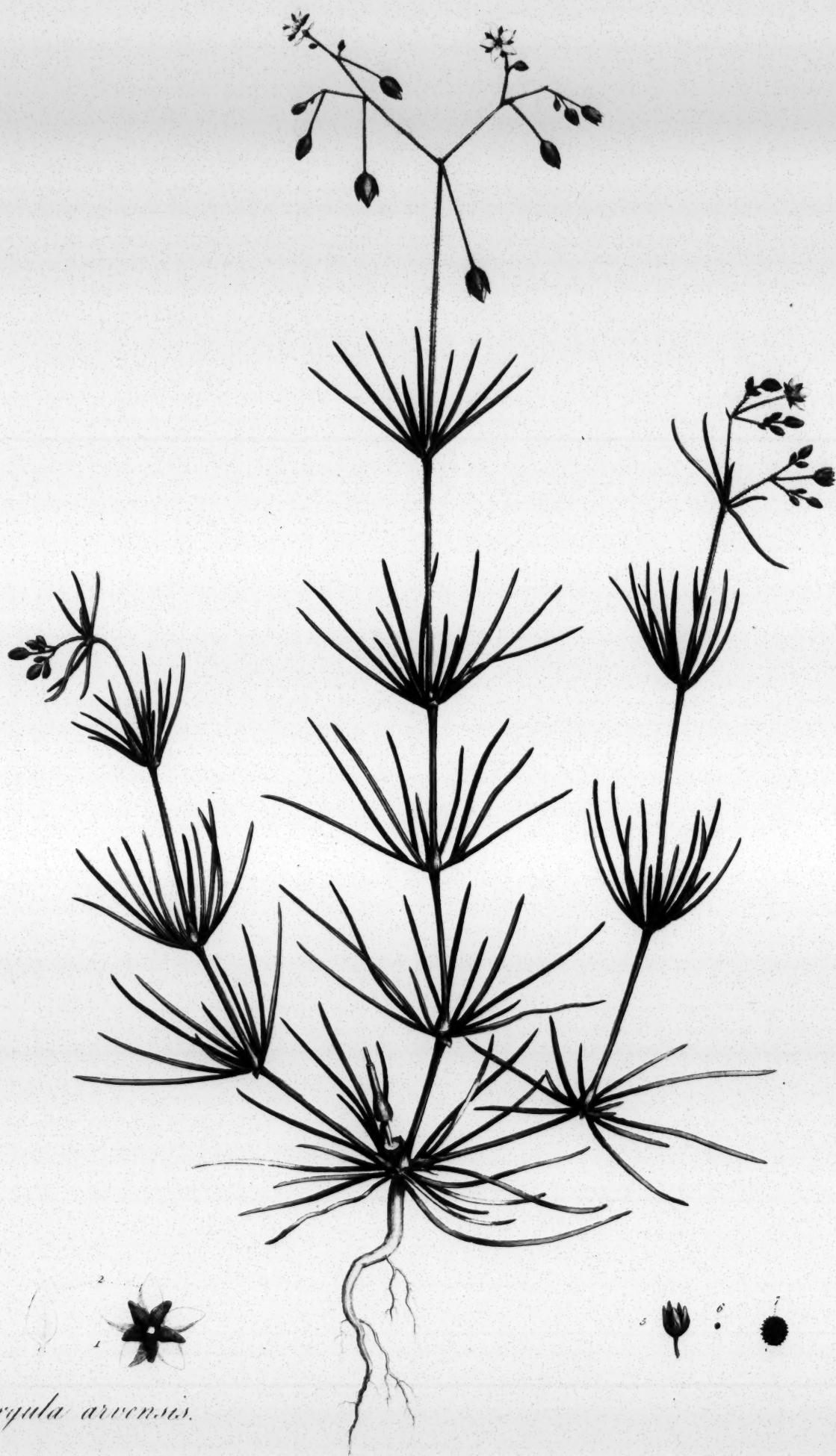
Ranunculaceae

CERASTIUM AQUATICUM L.

Ranunculaceae

CERASTIUM AQUATICUM L.





Spergula arvensis.

Linnaeus del. Goussier.

SPERGULA ARVENSIS. CORN SPURRY.

SPERGULA *Linnaei Gen. Pl. DECANDRIA PENTAGYNIA.*

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SPERGULA *arvensis* foliis verticillatis, floribus decandris. *Linnaei Syst. Vegetab. p. 363. Sp. Pl. p. 630. Flor. Suec. n. 419.*

ALSINE foliis verticillatis, seminibus rotundis. *Haller. hist. n. 873.*

ALSINE *spergula dicta major. Bauhin. Pin. 251.*

SAGINA *Spergula. Ger. emac. 1125.*

SAGINA *Spergula major. Parkins. 562. Raii Syn. p. 351. Spurrey. Hudson. Fl. Angl. ed. 2. p. 203. Lightfoot Fl. Scot. p. 243.*

RADIX annua, fibrosa.

CAULES plures, spithamæi, seu pedales, suberecti, teretes, læves, superne viscosi, geniculis globosis.

STIPULÆ ad genicula binæ, brevissimæ, apicibus inferiorum reflexis.

FOLIA verticillata, fasciculos duos constituentia, foliolis octo circiter in quovis fasciculo, interioribus sensim minoribus, linearia, teretia, apicibus flavis, dorso lineâ exarato, superioribus viscosis.

FLORES albi, pulchelli, paniculati, panicula dichotoma.

PEDUNCULI viscosi, peractâ florecentiâ penduli.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, obtusiusculis, concavis, patentibus, persistentibus, marginibus albidis, *fig. 1.*

COROLLA: PETALA quinque, ovata, acutiuscula, concava, calyce longiora, ungue brevi affixa, *fig. 2.*

STAMINA: FILAMENTA decem, alba, subulata; ANTHERÆ subrotundæ, flavæ, *fig. 3.*

PISTILLUM: GERMEN subrotundum; STYLI quinque, breves, reflexi; STIGMATA simplicia, *fig. 4.*

PERICARPIUM: CAPSULA ovata, tecta, unilocularis, quinquevalvis, *fig. 5.*

SEMINA plurima, majuscula, nigricantia, depresso-globosa, punctis rufis prominulis ad lentem exasperata, annulo manifeste cincta, *fig. 6, 7.*

ROOT annual and fibrous.

STALKS numerous, about a span or a foot in length, nearly upright, round, smooth, on the upper part clammy, joints globular.

STIPULÆ growing in pairs at the joints, very short, the tips of the lower ones reflexed.

LEAVES growing in whorls, and forming two bundles, about eight in each bundle, the inner ones gradually smallest, linear, round, tips yellow, with a deep furrow on the back, the upper ones clammy.

FLOWERS white, pretty, growing in a panicle, which is dichotomous.

PEDUNCLES clammy, hanging down when the flowering is over.

CALYX: a PERIANTHIUM of five leaves, the leaves ovate, bluntish, concave, spreading, permanent, the edges whitish, *fig. 1.*

COROLLA: five PETALS, ovate, a little pointed, concave, longer than the calyx, affixed by a short claw, *fig. 2.*

STAMINA: ten FILAMENTS, white, tapering; ANTHERÆ roundish and yellow, *fig. 3.*

PISTILLUM: GERMEN roundish; STYLES five, short, reflexed; STIGMATA simple, *fig. 4.*

SEED-VESSEL: an ovate CAPSULE covered, by the remaining calyx, of one cavity and five valves, *fig. 5.*

SEEDS numerous, rather large, blackish, round, with a small degree of flatness, if viewed with a magnifier beset with small, reddish, prominent points, and encircled with a manifest ring, *fig. 6, 7.*

The *Spergula arvensis* is seldom found but in a sandy soil; and as that kind of soil does not abound much in the neighbourhood of London, so this species of *Spergula* may be considered as one of our plantæ rariores. On some parts of Hampstead-Heath, and in the neighbourhood of the Spaniard, we have often noticed it, as well as in the sand-pits at Charlton. In some sandy fields near Carshalton, in Surrey, we have seen it so plentiful as to appear like the intended crop. As no use is made of it with us, it may be considered as one of the worst weeds to which a sandy soil is subject. Abroad, however, it is an object of cultivation. In some parts of Flanders, Germany, and Norway, they feed their cattle with the plant, and their poultry with its seeds; but as Tares and Buck-wheat, which are far more productive, as well as nutritious, may be cultivated in a similar soil, our Farmers do wisely in rejecting it.

It is found in blossom from July to September.

We have not found this plant unusually subject to vary in the number of its stamina; nor have we observed it to vary so much in any other respect as to make us suspect we had seen the *Spergula pentandra* of LINNÆUS, which Mr. HUDSON makes a variety of the *arvensis*, contrary to the opinion of some of the greatest authorities. If the difference betwixt these two plants was to depend solely on the number of its stamina, we should be extremely ready to consider them as the same; but RAY, whose opinion must be allowed to have great weight, describes the *pentandra* as a species totally distinct from the *arvensis*. He does not found his specific difference on the number of its stamina; but on characters, less subject to variation: the leaves at the joints, he observes, are fewer and thicker, the plant flowers early, and soon goes off (neither of which takes place in the *arvensis*); and adds, that Dr. SHERHARD observed it in sandy places in Ireland.

To shew that other Authors have likewise entertained an opinion of its being a distinct species, we shall quote their respective synonyms.

Spergula foliis filiformibus verticillatis raris seminibus nigris. Sauv. Monsp. 167.

Alfina spergulæ facie minima seminibus emarginatis. Tourn. inst. 244. Vaill. Paris 8.

Alfina spergulæ facie minima. Magn. Monsp. 14.

Arenaria teretifolia verna, flore albo, semine limbo foliaceo cincto. Rupp. Jen. 101.

Spergula annua, semine foliaceo nigro circulo membranaceo albo cincto. Moris hist. 2. p. 551. blas. 28. Dill Gifs 46. E. N. C. cent. 5 p. 275. t. 4.

On these several authorities we cannot but conclude, that there exists such a plant as the *Pentandra*; nor can we avoid expressing a wish, that some gentleman, whose residence may afford him an opportunity of observing its history, will favour us with a more complete account of it.





Spergula saginoides.

SPERGULA SAGINOIDES. PEARLWORT SPURREY.

SPERGULA *Lin. Gen. Pl. DECANDRIA PENTAGYNIA.*

Cal. 5 phyllus. Petala 5, integra. Caps. ovata, 1-locularis, 5-valvis.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SPERGULA *saginoides* foliis oppositis linearibus lævibus, pedunculis folitariis longissimis, caule repente.
Lin. Syst. Vegetab. p. 363. Sp. Pl. 631.

ALSINE *tenuifolia* pediculis florum longissimis. *Vaillant Botan. Paris, p. 8. a. 11.*

SPERGULA *laricina* foliis oppositis subulatis ciliatis fasciculatis, floribus pentandris. *Hudson Fl. Angl. ed. 2. p. 203.*

SPERGULA *laricina.* *Lightfoot Fl. Scot. p. 224.*

SAXIFRAGA *graminea* pusilla foliis brevioribus crassioribus et succulentioribus. *Raii Syn. p. 345?*

RADIX perennis, fibrosa.

CAULES ex una radice plures, pollicares aut bipollicares, basi procumbentes, et ut plurimum repentes, ramosi, teretes, pilis brevibus glanduliferis vix conspicuis vestiti.

FOLIA radicalia semipollicaria, linearia, acuta, mucrone albido terminata, saturate viridia, glabra, subcarnosa, superne nuda, inferne et ad oras pilosa, pilis glanduliferis; caulina breviora, connata, planiuscula, subsecunda. *fig. 1.*

PEDUNCULI suberecti, simplices, pollicares et ultra, teretes, ex fusco purpurascens, apice nutantes.

FLORES albi, pulchelli.

CALYX: PERIANTHIUM pentaphyllum, persistens, foliolis ovato-oblongis, concavis, obtusis, viscidulis, margine membranaceis. *fig. 2.*

COROLLA: PETALA quinque, alba, longitudine calycis, subrotunda, integerrima, patentia. *fig. 3.*

STAMINA: FILAMENTA quinque ad decem, sæpius vero quinque, subulata, longitudine germinis; ANTHERÆ parvæ, luteæ. *fig. 4.*

PISTILLUM: GERMEN obovatum; STYLI plerumque quinque, filiformia, villosa, reflexa; STIGMATA simplicia. *fig. 5.*

PERICARPIMUM: CAPSULA uni-locularis, quinque-valvis, calyci insidens.

SEMINA plurima, minima, fusca, ad lentem punctata. *fig. 7, 8.*

ROOT perennial and fibrous.

STALKS, several arise from one root, an inch or two in length, procumbent, and generally creeping at bottom, branched, round, covered with short glandular hairs, scarcely visible.

LEAVES next the root about half an inch in length, linear, sharp and terminated by a whitish point or bristle, of a deep green colour, somewhat shining, and rather fleshy, on the upper side smooth, on the under side, and at the edge, hairy, the hairs terminated by little glands, those of the stalk shorter, growing together at the base, flattish, and tending somewhat one way. *fig. 1.*

FLOWER-STALKS somewhat upright, simple, an inch or more in length, round, of a brownish purple colour, nodding at top.

FLOWERS white and pretty.

CALYX: a PERIANTHIUM of five leaves, permanent, the leaves oval, hollow, obtuse, somewhat viscid, the edge membranous. *fig. 2.*

COROLLA: five white PETALS, the length of the calyx, of a roundish shape, entire at the edge and spreading. *fig. 3.*

STAMINA: FILAMENTS from five to ten, but most commonly five, tapering, the length of the germen; ANTHERÆ small and yellow. *fig. 4.*

PISTILLUM: GERMEN inversely ovate; STYLES generally five, thread-shaped, villous and turned back; STIGMATA simple. *fig. 5.*

SEED-VESSEL: a CAPSULE of one cavity, and three valves sitting on the calyx. *fig. 6.*

SEEDS numerous, very small and brown, appearing dotted when magnified. *fig. 7, 8.*

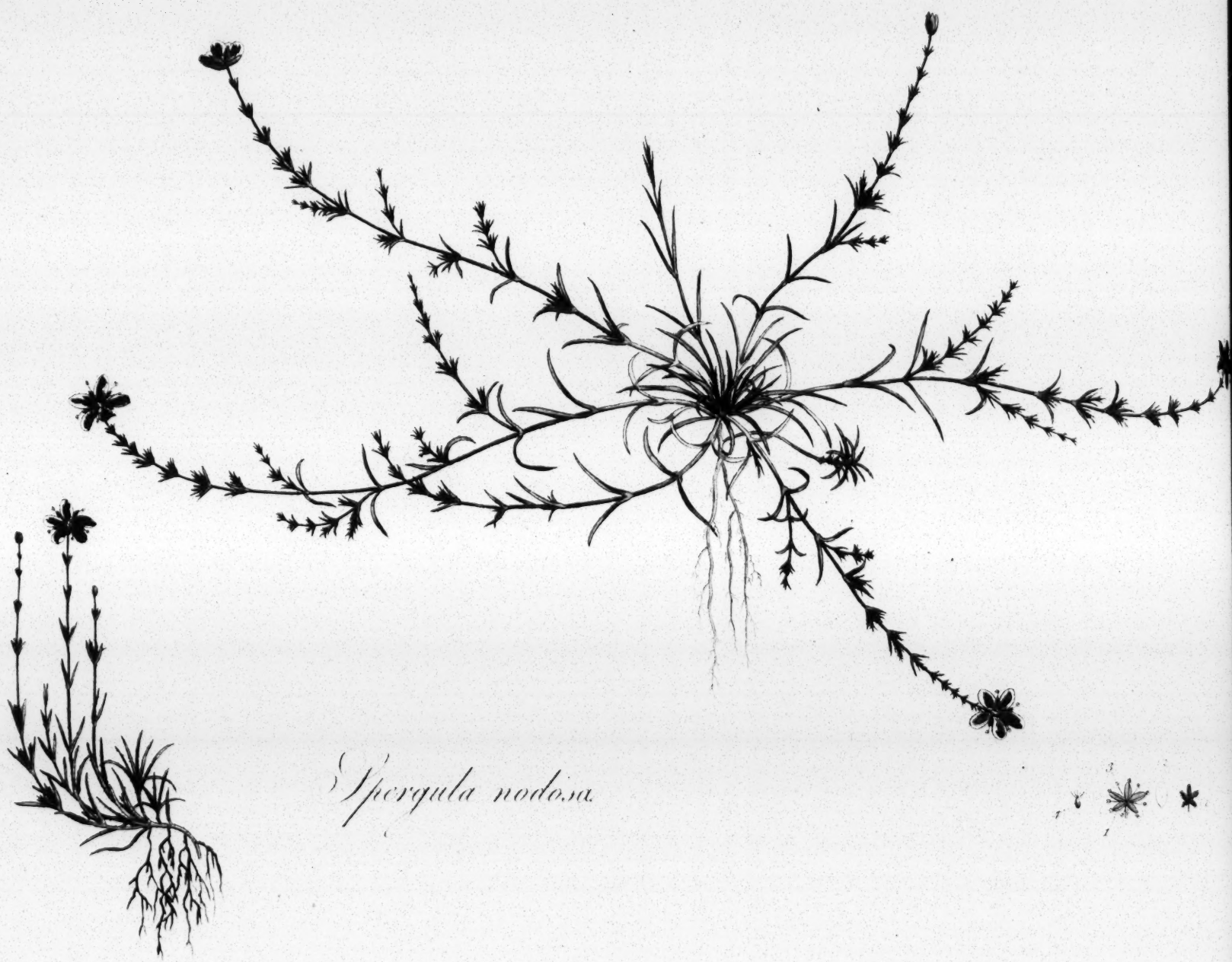
We are led to consider this plant as the *Spergula saginoides* of LINNÆUS, from its according exactly with a minute description given of it by VAILLANT in his *Botanicon Parisiense**, to which the former refers, and surely no name was ever more aptly applied, for did not its conspicuous petals proclaim it, it might for ever have passed for the *Sagina procumbens*; these lead us to the plant, and examination proves it to be a *Spergula*, inconstant indeed like many other plants in the number of its stamina.

In its generic character this species of *Spergula* differs in number only from the *Sagina procumbens*, it agrees particularly with it in the form of its capsules, size, and shape of its seeds, but two obvious specific characters at once distinguish them, these are the size of the petals, and the peculiar hairiness of the whole plant; in the *Sagina procumbens* the petals are very small, being much shorter than the calyx, whence they are inconspicuous; in the *Spergula* they are of the same length as the calyx, and, when expanded, become very conspicuous; the *Sagina procumbens* (which must not be confounded with the *apetala* LINNÆI) is smooth, while the *Spergula* has its stalks, leaves, peduncles and calyx covered with short hairs, having little globules at their extremities, and which are very distinguishable when magnified.

It is not uncommon on *Putney Heath*, and in similar situations about *Coomb Wood, Surry*; Dr. GOODENOUGH discovered it plentifully on *Bagshot Heath*, especially on some banks thrown up on *Potnell Warren*, near the great Bog at *Virginia Water*; Mr. LIGHTFOOT shewed it me several years ago on *Uxbridge Moor*; and Mr. HUDSON mentions it as growing about *Cobham and Esber* in *Surry*. It flowers from June to August.

* Cette plante a le port & les feuilles de l' *Alsine minima flore fugaci*. J. R. H. mais elle s'élève plus haut. Les tiges et les pedicules des fleurs sont ordinairement brunes. Sa fleur n'a qu' environ 2 lignes de diamètre. Elle est a 5 petales blancs, entiers ronds, qui ne debordent point le calice & qui sont opposé a ses cantons. Le pistile est un petit bouton tirant sur l'ovale, vert pâle, surmonté de 5 files blanches, courts dist. of 2 en étoile, & entouré de 10 Etamines blanches ainsi que leurs sommets. Ces Etamines n'ont pas une ligne de long. Le calice est parsemé de petits poils tres courts. Il est decoupé en étoile a 5 parties egales. Cette plante ne s'élève que depuis 2 jusqu'a 4 pouces, elle pousse ordinairement plusieurs tiges de sa racine, lesquelles se couchent d'abord sur la terre, & sont droites dans le rest de leur longueur. Ses feuilles sont lisses, vertes, roides, dures et ressemblent assez bien a celles du Knapel ou de l' *Alsine minima flore fugaci*. Elle commence a fleurir vers la fin de May & continue en Juin & Juillet. Elle se trouve dans les fitches qui sont au de la St. Leger entre la forest et le Village de St. Lucien le long du chemin. Elle n'a que le goùt d'herbe. Son fruit s'ouvre ordinairement en 4 & quelquefois 5 lobes de la pointe vers la base & contient dans sa cavité plusieurs semences noirâtre tres menues. *Botan. Par. p. 8, 9.*





Spergula nodosa

SPERGULA NODOSA. KNOTTED SPURRY.

SPERGULA *Lin. Gen. Pl.* DECANDRIA PENTAGYNIA.

Cal. 5-phyllus. *Petala* 5 integra. *Caps.* ovata, 1-locularis, 5-valvis.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SPERGULA *nodosa* foliis oppositis subulatis lævibus caulibus simplicibus. *Lin. Syst. Vegetab.* p. 363. *Sp. Pl.* p. 630.

ALSINE foliis superioribus fasciculatis. *Haller. Hist.* n. 871.

STELLARIA *nodosa*. *Scopoli Fl. Carn.* n. 545.

ALSINE *nodosa* Germanica. *Baub. Pin.* p. 251.

ALSINE palustris, ericæ folio, polygonoides, articulis crebrioribus, flore albo pulchello. *Pluk. alm.* 23. t. 7. fig. 4.

SAXIFRAGA palustris Anglica. *Park.* 427.

ALSINE palustris foliis tenuissimis, seu Saxifraga palustris Anglica. *Ger. emac.* 567. 568. *Raii Syn.* p. 350. English Marsh-Saxifrage. *Hudson Fl. Angl. ed.* 2. p. 203. *Lightfoot Fl. Scot.* p. 244.

RADIX perennis, fibrosa.

CAULES ex una radice plures, palmares et ultra, nunc procumbentes, nunc ascendentes, post florescentiam sæpe repentes, simplices seu ramosi, teretes, tenues, glabri, parce pilosi, pilis ad lentem globuliferis, crebris geniculis intercepti, geniculis tumidis.

FOLIA *radicalia* plurima, cæspitosa, læte virentia, linearia, acuta, uncialia, subcarnosa, glabra, caulina inferiora paulo breviora, connata, superiora brevissima, teretiuscula, fasciculata, ex alis prolifera.

FLORES albi, delicatuli, in summis caulibus et ramulis, majores quam pro plantulæ modo.

PEDUNCULI erecti, semipollicares.

CALYX: PERIANTHIUM pentaphyllum, foliolis oblongis, concavis, subpilosis, pilis ut in caule. *fig. 1.*

COROLLA: PETALA quinque, alba, calyce duplo longiora, ovato-rotundata, integerrima. *fig. 2.*

STAMINA: FILAMENTA decem, subulata, alba, corollæ breviora. ANTHERÆ concolores, incumbentes, primo bilobæ, lobis oblongis, parallelis. *fig. 3.*

PISTILLUM: GERMEN turbinatum. STYLI quinque, filiformes, villosuli, reflexi. STIGMATA simplicia, *fig. 4.*

PERICARPIUM: CAPSULA parva, ovata, calyce tecta, unilocularis, quinquevalvis.

SEMINA plurima, minima, nigricantia.

ROOT perennial and fibrous.

STALKS several from one root, four inches or more in length, sometimes procumbent, sometimes nearly upright, after flowering often creeping, simple or branched, round, slender, smooth, sparingly haired, the hairs appearing globular at top when magnified, having numerous joints which are swelled.

LEAVES next the root numerous, forming a turf, of a beautiful dark green colour, linear, pointed, about an inch in length, somewhat fleshy, smooth, the lowermost stalk-leaves a little longer than the radical ones, joined together at bottom, the uppermost stalk-leaves very short, from their alæ producing small tufts of leaves, the rudiments of branches.

FLOWERS white, and delicate, sitting on the tops of the stalks and branches, large in proportion to the size of the plant.

FLOWER-STALKS upright, about half an inch in length.

CALYX: PERIANTHIUM composed of five leaves, which are oblong, hollow, slightly hairy, the hairs like those on the stalk. *fig. 1.*

COROLLA composed of five white petals, twice the length of the calyx, of a roundish egg-shape, perfectly entire. *fig. 2.*

STAMINA: ten FILAMENTS tapering, white, shorter than the corolla. ANTHERÆ of the same colour, lying across the filament, at first composed of two oblong lobes parallel to each other. *fig. 3.*

PISTILLUM: GERMEN broad at bottom, narrow at top. STYLES five, filiform, slightly villous and reflexed. STIGMATA simple. *fig. 4.*

SEED-VESSEL: a small ovate CAPSULE covered with the calyx, of one cavity and five valves.

SEEDS numerous, very minute, of a blackish colour.

The *Spergula nodosa* recommends itself to our notice by the beauty of its verdure, and the delicacy of its blossoms; the largeness and whiteness of which, joined to its place of growth, serve also to distinguish it from those plants which may have some resemblance to it in their foliage.

It grows in moist situations, frequently among herbage, and sometimes out of Walls, Rocks, and Stones.

I have observed it growing out of the wall by the *Thames* side, in several places betwixt *Lambeth* and *Putney*.

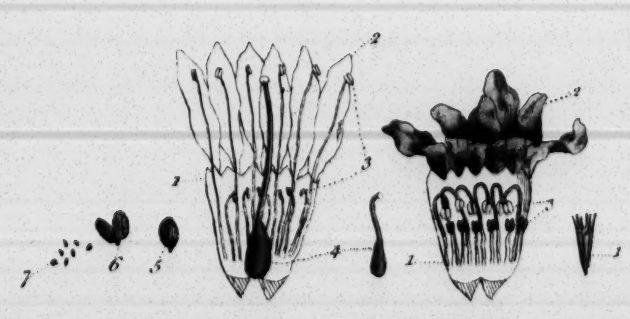
I have also found it on *Hounslow Heath* with the *Sagina procumbens* and *Centunculus minimus*. It flowers in *July* and *August*.

About *London* it is a scarce plant; but in the north of England it is very common on the borders of rivulets, and grows generally more upright than with us: a small specimen of it, in this state, is represented on the plate.





Salix Salicaria.



LYTHRUM SALICARIA. PURPLE-SPIKED LOOSE-STRIFE.

LYTHRUM *Lin. Gen. Pl.* DODECANDRIA MONOGYNIA.

Cal. 12 fidus. *Petala* 6. calyci inserta. *Caps.* 2. locularis, polysperma.

Raii Syn. Gen. 25. HERBÆ HEXAPETALÆ ET POLYPETALÆ VASCULIFERÆ.

LYTHRUM *Salicaria* foliis oppositis cordato lanceolatis floribus spicatis dodecandris. *Lin. Syst. Vegetab.* p. 371. *Spec. plant.* 640. *Fl. Suec. n.* 422.

SALICARIA foliis lanceolatis, subhirsutis, floribus spicatis. *Haller. hist.* 854.

LYTHRUM *Salicaria*. *Scopoli Fl. Carn.* n. 565. *Lysimachia* spicata purpurea. *Bauh. pin.* 246.

SALICARIA vulgaris purpurea foliis oblongis. *Tourn. Inst. Raii Syn.* p. 367. Purple spiked Willow-herb, or Loose-strife.

LYSIMACHIA purpurea *Ger. emac.* 476. *Parkinson.* 546. *Hudson. Fl. Angl. ed. 2.* p. 206. *Lightfoot, Fl. Scot.* p. 206.

RADIX perennis, crassa, ramosa, sublignosa, in latum extensa.

CAULIS bipedalis ad tripedalem, erectus, inferne glaber, tetragonus, superne pubescens, pentagonus: angulis acutis, membranaceis, scabris, ramosis.

RAMI superiores sparsi; inferiores oppositi, tetragoni, scabri, minutim pubescentes, erecti, breviusculi, frequentes.

FOLIA sessilia, amplexicaulia, lanceolata, acuta, tripollicaria, supra glabra, subtus minutim pubescentia, scabriuscula, venosa, margine scabra, patentia; inferiora opposita, superiora sparsa, ramea opposita.

SPICÆ terminales, cylindricæ, e glomeribus florum compositæ, conglomeribus remotiusculis, circiter octofloris, bractea fulcitis.

BRACTEÆ glomerum solitariae, ovatae, longius acutae, subtus villosae, calycibus longiores, subpurpureae; florum lineari-subulatae, parviusculae.

CALYX: PERIANTHIUM tubulatum, turbinato-cylindricum, striatum, hirsutum: ore truncato, 12 fido: laciniis purpurascentibus; quarum sex alternæ subulatae, hirsutae, erectae; sex aliæ alternæ parvae, ovato acutiusculae, inflexae, concavae, apice minutim barbatae. *fig. 1.*

COROLLA purpurea: PETALA 6, cuneiformi-oblonga, obtuso rotundata, erecta, calyce longiora, margine calycis intra lacinas calycis longiores inserta, patentia. Petala ante eruptionem calycis tubo intrusa sunt et recondita; hinc postmodum erumpunt et quasi e calyce extrahuntur. *fig. 2.*

STAMINA: Filamenta 12, subulata, albidæ, calycis parieti intra tubum inserta, quorum sex longiora tubo calycis paulo longiora; 6 breviora intra tubum recondita; ANTHERÆ inferiores ovatae, luteae, incumbentes, superiores purpureae. *fig. 3.*

PISTILLUM: GERMEN superum, ovatum, acutum, utrinque fulcatum, glabrum, viridescens; STYLUS cylindricus, albus, corollâ vix longior; STIGMA capitatum. *fig. 4.*

PERICARPIUM: CAPSULA oblonga, tecta, bilocularis. *fig. 5. 6.*

SEMINA plurima, minima. *fig. 7.*

ROOT perennial, thick, branched, somewhat woody, widely extended.

STALK from two to three feet high, upright, below smooth, four-cornered; angles sharp, membranous and rough; branched.

BRANCHES: the upper ones placed without any order; the lower ones opposite, four-cornered, rough, and slightly downy, upright, shortish, and numerous.

LEAVES sessile, embracing the stalk, lanceolate, pointed; about three inches long, above smooth, underneath slightly downy, roughish, and veiny, spreading; the lower ones opposite, the upper ones placed without any regular order, those of the branches opposite.

SPIKES terminal, cylindrical, composed of clusters of flowers, which are placed at a little distance from each other, and consist of about eight flowers supported by a floral leaf.

FLORAL-LEAVES of the clusters solitary, oval with a long point, underneath villous, longer than the flower-cups, and purplish, those of the flowers small, nearly linear, and running out to a point.

CALYX: a PERIANTHIUM tubular, cylindrical but widest at top, striated, hirsute, the mouth as if cut off, divided into twelve purplish segments, six of which run out to a long point, are hirsute and upright, the other six which are alternate with the preceding six are small, ovate, pointed, bend inward over the stump, are hollow and minutely bearded at top. *fig. 1.*

COROLLA purple. PETALS 6, of an oblong wedge shape, blunt at the extremity, upright and longer than the calyx, inserted into the edge of the calyx betwixt its longest segments, and spreading, the Petals, before they break out, are as it were thrust into and hid in the tube of the calyx, from whence they afterwards burst forth, and are as it were drawn out of the calyx. *fig. 2.*

STAMINA: 12 Filaments, tapering and whitish, inserted into the inside of the calyx, of which the six longest are somewhat longer than the tube of the calyx, and the six shortest hid within the tube; ANTHERÆ ovate and incumbent, the lowermost yellow, the uppermost purple. *fig. 3.*

PISTILLUM: GERMEN above the calyx, ovate, pointed, with a groove on each side, smooth, greenish; STYLE cylindrical, white, scarce longer than the Corolla; STIGMA forming a little head.

SEED-VESSEL: an oblong Capsule, covered by the calyx, of two cavities. *fig. 5. 6.*

SEEDS numerous and very small. *fig. 7.*

The beautiful long spikes of purple flowers which this plant plentifully produces during the latter part of the Summer, render it a conspicuous ornament on the banks of rivers, ponds, ditches, &c. where it grows almost universally in this country; brought into the garden it flourishes without any trouble, and is a very proper plant to grace the shrubbery.

Its qualities appear to be of the astringent kind, hence it has been recommended by DE HAEN in long protracted Diarrhæas and Dysenteries. *Vid. rat. med. part. 4. p. 195.*

It generally remains untouched by cattle, I have this year observed its leaves very much eaten by the Caterpillar of a *Trentbedo*.

The structure of the blossom is singularly curious, and will amply repay the botanist the trouble of dissecting it. I have noticed a variety with three leaves at a joint, in which the stalk was hexagonal.





Agrimonia Eupatoria

AGRIMONIA EUPATORIA. AGRIMONY.

AGRIMONIA *Lin. Gen. Pl. DODECANDRIA DIGYNIA.*

Cal. 5 dentatus, altero obvallatus. Petala 5. Sem. 2, in fundo calycis.

Raii Syn. Gen. 10. HERBÆ FLORE PERFECTO SIMPLICI SEMINIBUS NUDIS SOLITARIIS SEU AD SINGULOS FLORES SINGULIS.

AGRIMONIA *Eupatoria* foliis caulinis pinnatis: impari petiolato, fructibus hispidis. *Lin. Syst. Veg. p. 372. Sp. Pl. p. 643. Fl. Succ. n. 423.*

AGRIMONIA foliis pinnatis, pinnulis alterne minimis. *Haller Hist. 991.*

AGRIMONIA *Eupatoria. Scopoli Fl. Carn. n. 567.*

EUPATORIUM veterum seu Agrimonia. *Bauh. Pin. 321.*

AGRIMONIA *Ger. emac. 712.*

AGRIMONIA vulgaris. *Park. 594. Raii Syn. p. 202. Agrimony. Hudson. Fl. Angl. ed. 2. p. 206. Lightfoot Fl. Scot. p. 247.*

RADIX perennis, ramosa, rubescens, squamis nigricantibus obsessa.

CAULIS pedalis ad tripedalem, erectus, teres, obsolete angulosus, hirsutus, rubicundus aut rubropunctatus, simplex vel ramosus.

FOLIA alterna, subambrosiaca, hirsuta, interrupte pinnata cum impari, 5 vel 6 juga, pinnæ suboppositæ, sessiles, subovatae, venosæ, serratae, ciliatæ, pinnulæ plerumque integræ aut trifidæ.

STIPULÆ duæ, oppositæ, majusculæ, amplexicaules, patentes, profunde serratae.

BRACTEÆ trifidæ, laciniis linearibus, hirsutis.

SPICA terminalis, elongata, hirsuta, floribus breviter pedicellatis.

CALYX: PERIANTHIUM monophyllum, quinquefidum, superum, persistens, laciniis ovatis, acutis, *fig. 1.* extra setis filiformibus, rigidis, apice purpureis, uncinatis, cinctum, *fig. 2.* intus substantia flava glandulosa clausum; *Involucrum* ad basin germinis diphyllum foliolis binis seu tridentatis, *fig. 3.*

COROLLA: PETALA quinque, subovata, flava, patentia, sessilia, substantiâ glandulosâ calycis inserta, *fig. 4.*

STAMINA: FILAMENTA undecim, seu duodecim, lutescentia, curvata, cum petalis inserta. ANTHERÆ didymæ, compressæ, *fig. 5.*

PISTILLUM: GERMEN inferum, *fig. 6.* STYLI duo, curvati, longitudine staminum. STIGMATA obtusa, *fig. 7.*

PERICARPIUM: CAPSULA e calyce orta, nutans, extra sulcatum, superne cincta aristis uncinatis, unilocularis, *fig. 8.*

SEMINA duo, subrotunda, glabra, *fig. 9.*

ROOT perennial, branched, of a reddish colour, beset with blackish scales.

STALK from one to three feet high, upright, round, faintly angular, hirsute, reddish or dotted with red, single or branched.

LEAVES alternate, somewhat fragrant, hirsute, interruptedly pinnated with an odd one at the end, composed of five or six pair of pinnæ, pinnæ mostly opposite, sessile, somewhat ovate, veiny, serrated, edged with hairs, the small pinnæ for the most part entire or trifid.

STIPULÆ two, opposite, rather large, embracing the stalk, spreading, and deeply serrated.

FLORAL-LEAVES trifid, the segments linear and hirsute.

SPIKE terminal, elongated, hirsute, the flowers standing on very short foot-stalks.

CALYX: a PERIANTHIUM of one leaf, divided into five segments, placed above the germen, and permanent, the segments ovate, pointed, *fig. 1.* externally surrounded with rigid, filiform, hooked, bristles, purple at the points, *fig. 2.* within closed with a yellow glandular substance; *Involucrum* at the base of the germen, composed of two leaves, each of which has two or three teeth, *fig. 3.*

COROLLA: five PETALS, somewhat ovate, yellow, spreading, sessile, inserted into the glandular substance of the calyx, *fig. 4.*

STAMINA: eleven or twelve FILAMENTS, of a yellowish colour, bent and inserted with the petals. ANTHERÆ composed of two lobes and flattened, *fig. 5.*

PISTILLUM: GERMEN beneath the calyx, *fig. 6.* STYLES two, bent, the length of the stamina. STIGMATA blunt, *fig. 7.*

SEED-VESSEL a CAPSULE, arising from the calyx, drooping, grooved on the outside, on the upper part surrounded with hooked beards, of one cavity, *fig. 8.*

SEEDS two, roundish and smooth, *fig. 9.*

Agrimony is a plant of very general growth, being found not only in Europe, but in Virginia and Japan.

It has been chiefly regarded as a medicinal plant, and as such is often raised in gardens. Culture does not seem to produce any material change in its quality. Another species or variety, of foreign original, common also in our gardens, and differing little in appearance from our indigenous Agrimony, promises to be superior to it in virtue, as its taste is more aromatic, and its smell much stronger, and very agreeable. CASPAR BAUHINE calls it *Eupatorium odoratum*. FABIVS COLUMNA *Eupatorium Dioscoridis odoratum et aromaticum. Lewis Disp. ed. Aik. p. 29.*

The leaves of Agrimony have a slightly bitterish, roughish taste, accompanied with an agreeable, though very weak, aromatic flavour. The flowers are in smell stronger, and more agreeable, than the leaves, and in taste somewhat weaker. They readily give out their virtues both to water and rectified spirit. The leaves impart to the former a greenish yellow, to the latter a deep green colour: the flowers yield their own deep yellow tincture to both menstrua. *Id.*

Agrimony is one of the milder corroborants; and in this intention is sometimes employed, especially among the common people, against habitual diarrhoeas, and cachectic and other indispositions, from a lax state of the solids. Infusions of the leaves, which are not ungrateful, may be drank as tea. It is sometimes joined with other ingredients in diet drinks for purifying the blood, and in pectoral Apozems. *Id.*

This plant delights in a dry soil, and grows almost every where, in this kingdom, in open pastures, in the borders of fields, and by the sides of hedges and ditches, flowering from July to September.

Cattle in general dislike and leave it untouched.





Euphorbia Helioscopia.

EUPHORBIA HELIOSCOPIA. SUN SPURGE OR WART-WORT.

EUPHORBIA *Linnaei Gen. Pl.* DODECANDRIA TRIGYNIA.

Cor. 4-f. 5-petala, calyci infidens. *Cal.* 1-phyllus, ventricosus.

Caps. 3-cocca.

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ, FLORE TETRAPETALO ANOMALÆ.

EUPHORBIA umbella quinquefida : trifida : dichotoma, involucellis obovatis, foliis cuneiformibus ferratis. *Linn. Syst. Vegetab.* p. 377. *Sp. Plant.* 658. *Fl. Suecic.* p. 162.

TITHYMALUS foliis petiolatis, subrotundis, ferratis, stipulis rotundis, ferratis. *Haller hist. v. 2.* p. 10. n. 1050.

TITHYMALUS *helioscopius.* *Scopoli Fl. Carniol.* p. 337. n. 579.

TITHYMALUS *helioscopius.* *Baubin Pin.* 291. *Gerard emac.* 458. *Parkinson.* 189.

TITHYMALUS *helioscopius* five folisequus. *I. B.* 3. 669. *Raii Syn.* 313. *Hudson Fl. Angl.* p. 183.

RADIX simplex, fibrosa, annua.

CAULIS erectus, teres, pilosus, inferne brachiatus, brachiis oppositis.

FOLIA sparsa, pauca, glabra, *ferrata*, cuneiformia, inferiora petiolata, superiora sessilia.

UMBELLA quinquefida, trifida, dichotoma, patens, fastigiata.

STIPULÆ minute ferratæ, glabræ, UMBELLÆ quinque, obovatæ, horizontales, æquales, *Umbellulæ* tres, ovatæ, inæquales, interiore duplo minore, quæ sequuntur mucrone terminatæ.

CALYX subventricosus, flavescens, *fig. 1.*

COROLLA nulla.

NECTARIA quatuor, subrotunda, nuda, *fig. 2.*

STAMINA : FILAMENTA duo, tria, aut plura, visibilia, exserta ; ANTHERÆ flavæ, biloculares, loculis subrotundis, *fig. 3.*

PISTILLUM : GERMEN pedunculatum, subrotundum, nutans ; STIGMATA tria, apice bifida, *fig. 4, 5.*

PERICARPIUM : CAPSULA tricoeca, trilocularis, trilobis, *fig. 6.*

SEMEN unicum in singulo loculamento, ovatum, rugosum ex purpureo fuscum, *fig. 7.*

ROOT simple, fibrous, annual.

STALK upright, round, slightly hairy, below branched, the branches opposite.

LEAVES growing in no regular order, few, smooth, *ferrated*, and wedge-shaped, the lower ones standing on foot-stalks, the upper ones sessile.

UMBELL dividing into five, next three, then two, spreading, of an equal height at top.

STIPULÆ minutely ferrated and smooth, those of the UMBELL five, somewhat oval, spreading horizontally, and equal ; those of the *smaller* UMBELL three, oval, unequal, the interior one twice as small as the others ; those which follow terminating in a point.

CALYX somewhat swelled, of a yellowish colour, *fig. 1.*

COROLLA wanting.

NECTARIA four, roundish and naked, *fig. 2.*

STAMINA : two, three, or more FILAMENTS, visible beyond the Calyx ; ANTHERÆ yellow, bilocular, the cavities containing the Pollen roundish, *fig. 3.*

PISTILLUM : GERMEN placed on a foot-stalk, roundish, hanging down ; STIGMATA three, bifid at top, *fig. 4, 5.*

SEED-VESSEL a CAPSULE of three protuberating valves, and three cavities, *fig. 6.*

SEEDS one in each cavity, oval, wrinkled, of a purplish brown colour, *fig. 7.*

IN speaking of the *Euphorbia Peplus*, I had occasion to take notice of the difficulty which Students in Botany find in investigating the *Class* and *Order* of this Genus, and endeavoured to make it easier to them : in this plant the parts of the fructification are somewhat larger ; and it differs from the other Spurges in having its leaves finely ferrated. In its acrimonious quality it is inferior to none ; hence it has often been applied to Warts for the purpose of destroying them ; but even in this case, great care should be used in its application. My friend Mr. WILLIAM WAVELL lately informed me of a case which fell under his notice in the Isle of Wight, where from the application of the juice of this Spurge to some Warts near the eye of a little girl, the whole face became inflamed to a very great degree.

It is very common in gardens and cultivated ground, flowering in Autumn.







Euphorbia Peplus

EUPHORBIA PEPLUS. SMALL GARDEN SPURGE.

EUPHORBIA *Linnaei Gen. Pl.* DODECANDRIA TRIGYNIA.

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

EUPHORBIA (*Peplus*) umbella trifida, dichotoma, involucellis ovatis, foliis integerrimis obovatis petiolatis.

Linn. Syst. Vegetab. p. 375. *Fl. Suecic.* p. 163.

TITHYMALUS foliis rotundis, stipulis floralibus cordatis, obtusis, petalis argute corniculatis. *Haller. hist.*

vol. 2. p. 9. n. 1049.

PEPLUS five *Efula* rotunda. *Bauhin pin.* 292. *Parkinson. Gerard. emac.* 503.

TITHYMALUS parvus annuus, foliis subrotundis non crenatis, *Peplus* dictus. *Raii Syn.* p. 313. n. 9:

Petty Spurge. *Hudson Fl. Angl.* p. 182.

RADIX annua, lignosa, simplex, fibrosa, albida.

CAULIS, suberectus, dodrantalis, teres, glaber, ramifus, basi durior, tenuior, subruher, foliosus, lactifluus.

RAMI pauci, sparsi, inferioribus longioribus oppositis.

UMBELLA trifida, dichotoma.

FOLIA obovata, petiolata, integerrima, sparsa, obtusiuscula, inferioribus subrotundis.

STIPULÆ *umbellæ* tres, ovato-acutæ, petiolis brevibus infidentes, *umbellulæ* alterne oppositæ, sessiles, cordato-ovata, inæquales, integerrimæ, basi quâ tendit germen quasi excavatæ.

CALYX ventricosus, persistens. *fig.* 1.

COROLLA nulla.

NECTARIA quatuor *bicorniculata*, *fig.* 2.

STAMINA plerumque duo, aut tria, visibilia, exserta: ANTHERÆ didymæ, subrotundæ, *fig.* 3.

PISTILLUM: GERMEN pedunculatum, nutans, triangulare, angulis longitudinaliter fulcatis, *fig.* 4, 6: STIGMATA tria, apice bifida, *fig.* 5.

PERICARPIUM: CAPSULA tricocca, trilocularis, trilobis, valvulis levibus, et dum adhuc virides diffilientibus, *fig.* 6.

SEMEN unicum in singulo loculamento, ovatum, canum, *alveolatum*, appendiculatum, *fig.* 7.

N. B. Omnes partes fructificationis lente augentur.

ROOT annual, woody, simple, fibrous and whitish.

STALK generally upright, about nine inches high, round, smooth, and branched; at bottom harder, more slender, and of a reddish colour, leafy and milky.

BRANCHES few, not growing in any regular order, the lower ones longest and opposite.

UMBEL first trifid, then dichotomous.

LEAVES somewhat oval, but narrowest towards the base, having foot-stalks, entire at the edges, placed in no regular order, somewhat blunt, the lowermost leaves almost round.

STIPULÆ of the *large umbel* three in number, oval and pointed, placed on very short foot-stalks: of the *small umbel* alternately opposite, sessile, of an heart-shaped-oval form, unequal, and entire, at bottom on that side to which the Germen tends as if cut away.

CALYX bellying out and continuing, *fig.* 1.

COROLLA wanting.

NECTARIES four, each having *two little horns*, *fig.* 2:

STAMINA seldom more than two or three, which are visible, and placed without the Calyx: ANTHERÆ two on each filament joined together, of a roundish figure, *fig.* 3.

PISTILLUM: GERMEN placed on a foot-stalk, hanging down, triangular, the angles longitudinally grooved, *fig.* 4, 6: STIGMATA three, bifid at top, *fig.* 5.

SEED-VESSEL: a CAPSULE of three cavities, and three valves, the valves protuberant, smooth, and splitting with a kind of elasticity even while they are of a green colour, *fig.* 6.

SEED one in each cavity, oval, grey, with *numerous depressions on its surface*, and a little white button at one end, *fig.* 7.

N. B. All the parts of fructification are magnified.

MANY of the Spurges considerably resemble one another, and two of them that have this affinity, grow frequently together in Gardens, viz. the present Spurge, *Euphorbia Peplus*, and the Sun Spurge, *Euphorbia Helioscopia*; they may be distinguished however by the slightest attention. In the *Helioscopia* the leaves are *notched* or *serrated* at the edges, in the *Peplus* they are *entire*, in the *Helioscopia* the Petals or rather Nectaria are *round* and *entire*, in the *Peplus* each is furnished with *two little horns*, *fig.* 2; there are other marks of distinction but these are the most striking.

This species grows in Gardens and other cultivated ground, and flowers in Autumn.

The milky fluid which it abounds with, is by some applied to Warts, which it is said to destroy.

Most if not all the plants of this Genus contain in them this milky and gummy substance, which to the taste is exceedingly acid; and this lactifluous property, joined to the peculiarity of its parts of fructification, point out almost at first sight this natural family of plants. But the botanic Student who would investigate this species according to the principles of the Linnaean System, not having these characteristics to assist him, finds a considerable difficulty in learning even the *Class* to which it belongs, nor is it possible for him to ascertain the *Class* by an examination of this or scarce any other English Spurge: the *Stamina* in the first place are very minute, it is seldom that more than *two* or *three* protrude beyond the Calyx, all the rest lye concealed within it, they seldom amount to *twelve* in number, and even if they did amount to that exact number, their *minuteness* and the *milky juice* which flows from the dissection, render the enumeration of them scarce practicable. The Student may however in a great degree surmount this difficulty, by an examination of some plant of this genus, which is larger in every respect, and the *Euphorbia Lathyris* improperly called the *Caper Tree*, (which is cultivated in many Gardens) will afford him a very good example, and tend to give him a clear idea of the flower and fruit of this singular genus of plants.

I would not be thought on account of this difficulty to inveigh against LINNÆUS's System, being sensible that difficulties occur, and must occur in all botanic arrangements, and instead of selecting faults inseparable from every mode of classification, (which seems to have been a favourite amusement of some Authors, and forms indeed the greatest part of their writings) I would use every endeavour to make it more perfect.

It is too much the fashion now, as well as formerly, for every Botanist as soon as he thinks he has some pretensions to eminence, to set about the arduous task of framing a new System; he may by this means give the public some idea of his self-consequence, and be inrolled in the Catalogue of System-makers, but not one jot will he advance the science of Botany. It is to be regretted that Botanists will not be contented with a System, a proof of whose superiority is the almost general reception it has met with throughout Europe, and unite in their endeavours to render that System more compleat, by giving us an accurate account of the history of those plants not already given, their virtues and uses; this appears to me to be the true method of advancing this delightful Science, and making it useful to Mankind.

When one System of Botany is generally followed as is nearly the case at present, Botanists in different kingdoms perfectly understand each others language, but when each adopts a separate one, (which is frequently dictated by Pride or Caprice) all becomes Babel; and every one who wishes to acquire a knowledge of the plants treated of, must at considerable expence both of time and labour, acquire first the Authors new-created System-language, a tax which it is hoped every true Botanist will unite to oppose.





Euphorbia exigua.



EUPHORBIA EXIGUA. SMALL SPURGE.

EUPHORBIA *Lin. Gen. Pl.* DODECANDRIA TRIGYNIA.

Cor. 4 f. 5-petala, calyci infidens. *Cal.* 1-phyllus, ventricosus. *Caps.* 3-cocca.

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ, FLORE TETRAPETALO ANOMALÆ.

EUPHORBIA *exigua* umbella trifida: dichotoma: involucellis lanceolatis, foliis linearibus. *Lin. Syst. Vegetab.* p. 375. *Sp. Pl.* p. 654.

TITHYMALUS foliis linearibus, stipulis lanceolatis aristatis. *Haller Hist.* n. 1048.

TITHYMALUS five Esula exigua. *Bauh. Pin.* p. 295.

ESULA exigua Tragi. *Ger. emac.* 502.

TITHYMALUS leptophyllus. *Parkin.* 193. *Raii Syn.* 313. Dwarf Spurge, or small annual Spurge. *Hudson Fl. Angl. ed. 2.* p. 208. *Lightfoot Fl. Scot.* p. 250.

RADIX annua, simplex, paucis fibrillis instructa.
CAULIS erectus, ramosus, foliosissimus, semipedalis.

RAMI plerumque inferiorem partem caulis tantummodo occupant, oppositi, suberecti.

FOLIA plurima, appressa, linearia, obtusiuscula.

UMBELLA trifida, interdum quadrifida, rarius quinquefida, dichotoma.

STIPULÆ Umbellæ lanceolato-lineares.

—— Umbellulæ ovato-oblongæ, acuminatæ, oppositæ, sæpe inæquales.

CALYX glabra, persistens. *fig. 1. auct.*

COROLLA nulla.

NECTARIA quatuor, corniculata, fusca. *fig. 2, 3.*

STAMINA plerumque duo visibilia; ANTHERÆ didyma. *fig. 4.*

PISTILLUM: GERMEN subrotundum, petiolatum, nutans; STYLI tres; STIGMA bifidum. *fig. 5, 6.*

PERICARPIUM: CAPSULA tricoeca, trilocularis.

SEMEN unicum in singulo loculamento, nigrum, rugosum.

ROOT annual, simple, furnished with few fibres.

STALK upright, branched, very leafy, about six inches high.

BRANCHES generally occupy the lower part of the stalk only, are opposite and nearly upright.

LEAVES numerous, pressed to the stalk, linear, and somewhat obtuse.

UMBELL dividing into three branches, sometimes four, rarely five, those forked.

STIPULÆ of the *general Umbell* of a shape betwixt lanceolate and linear.

—— of the *partial Umbell*, of an oblong, ovate shape, running out to a point, opposite, and often irregular.

CALYX smooth, and permanent. *fig. 1. magnified.*

COROLLA wanting.

NECTARIES four, of a brownish colour, each furnished with two little horns. *fig. 2, 3.*

STAMINA generally about two visible; ANTHERÆ double. *fig. 4.*

PISTILLUM: GERMEN roundish, standing on a foot-stalk, and drooping; STYLES three; STIGMA bifid. *fig. 5, 6.*

SEED-VESSEL, a Capsule with three prominent sides, and three cavities.

SEED: a single one in each cavity, black, and wrinkled.

This small and delicate species of Spurge is often found in Corn-fields about *London*, especially on the *Surry* side of the *Thames*, nor is it uncommon in many other parts of *England*.

It flowers in *July* and *August*.

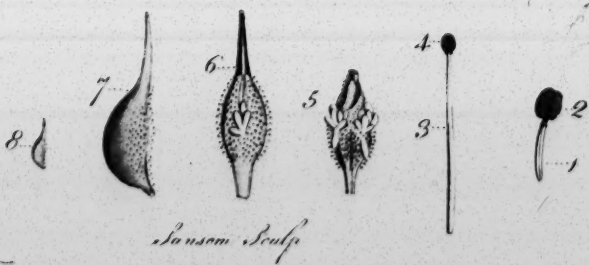
The *Tithymalus segetum longifolius* of *RAY*, considered by Professor *MARTYN* in his *Plant. Cantab.* as the *segetalis* of *LINNÆUS*, has by some been thought to be no other than a large specimen of this plant; Mr. *HUDSON* makes it a variety of the *platyphyllos*; supposing such a plant as the *segetalis* to exist, it cannot be a variety of the *exigua* because it has rough Capsules, and its leaves are by far too narrow for the *platyphyllos*, vid. *JACQUIN Pl. Austr. V. 3. & 4.* who figures them both, and considers them as distinct species.







Sempervivum tectorum



Lansom Sculp

SEMPERVIVUM TECTORUM. HOUSELEEK.

SEMPERVIVUM *Lin. Gen. Pl.* DODECANDRIA DODECAGYNIA. *Cal.* 12. *partitus Petala* 12. *Cap-
sule* 12. *polypermæ.*

Raii Syn. Gen. 17. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.

SEMPERVIVUM *teetorum* foliis ciliatis propaginibus patentibus. *Linn. Syst. Vegetab. p.* 178. *Sp. Pl.* 664. *Fl. Suec. n.* 428.

SEMPERVIVUM rofulis glabris ciliatis, petalis conglutinatis, lanceolatis, hirsutis, quatuordenis. *Haller. hist. n.* 949.

SEDUM *teetorum.* *Scopoli Fl. Carn. n.* 529.

SEDUM majus vulgare. *Baubin. pin.* 283. *Parkinson.* 730.

SEMPERVIVUM majus. *Ger. emac.* 510. *Raii Syn. p.* 269. Houseleek.

Hudson. Flor. Angl. ed. 2. Lightfoot. Fl. Scot. p. 251.

RADIX biennis, ramosa, plurimis fibrillis instructa.

FOLIA radicalia in formam Rosæ plenæ disposita, sessilia, cuneiformia, plusquam pollicaria, car-
nosa, crassa, supra plana, subtus convexius-
cula, utrinque glabra, inferne albida, mar-
gine ciliata, et sæpius rubore tinctâ, acumi-
nata, erecta, exteriora majora, interiora fen-
sim minora.

PROPAGINES longius petiolatæ, globosæ, magni-
tudine ovi columbini vel ultra, strobiliformes,
imbricatæ foliis erectis.

PETIOLI propaginum cylindrici, teretes, ferruginei,
lanuginosi, longius exsertiti, nudi, e basi ra-
dicis prope folia, exeuntes.

SCAPUS dodrantalis aut pedalis, erectus, teres, lanu-
ginosus, rubicundus, foliosus, apice ramosus,
ramis floriferis patentibus, recurvis.

FLORES plurimi, conferti, erecti, secundi, carnei.

CALYX: PERANTHIUM plerumque duodecemfidum,
laciniis lanceolatis, hirsutis, ciliatis, viscosis,
apice purpureis.

COROLLA: PETALA duodecim et ultra, calyce du-
plo longiora, lanceolata, carnea.

STAMINA: FILAMENTA numero et figura maxime
variantia, plerumque duodecim, subulato-te-
nuia; ANTHERÆ subrotundæ, purpureæ.

PISTILLUM: GERMINA duodecim in orbem posita,
erecta, definitia in STYLOS totidem patentes;
STIGMATA acuta.

PERICARPIUM: CAPSULÆ oblongæ, compressæ,
extrorsum acuminatæ, introrsum dehiscentes.

SEMINA plurima, subrotunda, parva.

ROOT biennial, branched, and furnished with nume-
rous fibres.

LEAVES next the root disposed in the form of a full
blown double rose, sessile, wedge-shaped,
somewhat more than an inch long, fleshy,
thick, above flat, on the under side a little
convex, smooth on both sides, beneath whi-
tish, the edges fringed with hairs, and gene-
rally tinged of a reddish colour, pointed, up-
right, the outer ones largest, the inner ones
gradually smallest.

OFFSETTS standing on long footstalks, globular, the
size of a pidgeon's egg or larger, formed some-
what like the cone of a pine, the leaves lay-
ing one over another and upright.

FOOTSTALKS of the offsets cylindrical, round, iron-
colour'd, slightly wooly, stretching out to a
considerable length, naked, springing from
the base of the root near the leaves.

FLOWERING-STEM from nine inches to a foot in
height, upright, round, wooly, of a reddish
colour, leafy, at top branched, the branches
sustaining the flowers, spreading, and bend-
ing back.

FLOWERS numerous, crowded, upright, growing
all one way, of a flesh colour.

CALYX: a PERANTHIUM divided usually into twelve
segments, which are lanceolate, hirsute, edg-
ed with hairs, clammy, and purplish at top.

COROLLA: twelve or more PETALS twice the length
of the calyx, lanceolate and flesh coloured.

STAMINA: FILAMENTS varying very much both in
shape and number, generally fourteen, slen-
der and tapering; ANTHERÆ roundish and
purple.

PISTILLUM: twelve GERMINA placed in a circle,
upright, terminating in the same number of
spreading STYLES; STIGMATA pointed.

SEED-VESSEL: numerous oblong CAPSULES, flat-
ten'd, outwardly terminating in a point, and
opening inwardly.

SEEDS numerous, roundish and small.

Mr. RAY, in his *Synopsis*, and Mr. LIGHTFOOT, in his *Flora Scotica* doubt whether the Houseleek be originally
a native of this country, however that be, it is now so common a plant on the house, or wall of every one that is
in the least fond of plants, that we shall not apologize for introducing it among our London plants.

HALLER describes it among his *Sveisserland* plants, and having gathered it on the Alps in its truly wild state, he
enters very minutely into its description, and among other peculiarities he takes notice of the uncommon appear-
ance which the Filaments often assume, and which is indeed such an appearance as would much puzzle an inex-
perienced Botanist, the Filaments as he truly observes are of two kinds, the one perfect and similar to the generality
of Filaments, the other even when young are evidently enlarged towards the end, and throw out from their sub-
stance little oblong white corpuscles like the eggs of some insect, which indeed I first took them to be, not having
then looked into Haller, but on examining a great number of flowers at different stages of their growth I found
they were common to many filaments, and that those filaments which were thus enlarged were also more glutinous
than the others, the Antheræ on their extremities were somewhat imperfect, as the fructification proceeded towards
maturity, the filaments continued to enlarge about the middle, while the top was drawn out to a kind of beak,
indeed in this state they seem to partake more of the nature of the Pistillum than of the Filaments, and for such
would be liable to be taken, on cutting them through they appeared hollow and contained some of the same cor-
puscles which were observable on the outsides of many of them, so that from their present appearance it was im-
possible to know that they were originally filaments, which may serve as a caution to students that in examining
of flowers they should always begin with such as are not expanded. *Vid.* 1. 2. 3. 4. 5. 6. 7. 8.

Houseleek has been universally considered as a cooler, the leaves bruised, or its juice have been applied to burns,
spreading ulcerations, fissures of the tongue, the piles, inflammations of the eye, &c. the juice mixt with a little
alum and honey is recommended for the thrush in children, and the leaves themselves are frequently applied to
corns.

LINNÆUS informs us that this plant is a preservative to the coverings of the houses in Smoland, it certainly
may with the least possible trouble be made quickly to cover the whole roof of a house, whether that roof
consists of tiles, thatch, or wood, by sticking the offsetts on with a little earth or Cow Dung; and if it should
not be found to have the good effect here spoken of, which I am by no means inclined to doubt, it forms at least a
very pretty ornament on Barns, Stables, Out-Houses and Walls, particularly in the month of July when it flowers.





Spiraea Ulmaria.

J. Sm. del. A. J. G. sculp.

SPIRÆA ULMARIA. MEADOW-SWEET.

SPIRÆA *Lin. Gen. Pl. ICOSANDRIA PENTAGYNIA.*

Cal. 5-fidus. Petala 5. Caps. polyspermæ.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

SPIRÆA *Ulmaria foliis pinnatis: impari majore lobato, floribus cymosis. Lin. Syst. Vegetab. p. 393. Sp. Pl. p. 702. Fl. Succ. n. 440.*

FILIPENDULA *foliis pinnatis, acute ferratis, minimis intermissis, extrema trilobata maxima. Haller. hist. n. 1135.*

SPIRÆA *Ulmaria Scopoli Fl. Carn. n. 603.*

BARBA CAPRI *floribus compactis. Bauh. Pin. 164.*

ULMARIA *I. B. III. 488.*

REGINA PRATI *Ger. emac. p. 1043.*

ULMARIA *vulgaris. Parkins. 592. Raii Syn. p. 259. Meadow-Sweet. Hudson Fl. Angl. ed. 2. p. 217. Lightfoot Fl. Scot. p. 259.*

RADIX	perennis, crassitie minimi digiti, obliqua, rubicunda, fibris plurimis ex fusco lutescentibus descenditibus instructa.	ROOT	perennial, the thickness of the little finger, oblique, reddish, furnished with numerous fibres of a brownish yellow colour, running deep into the earth.
CAULIS	bi seu tripedalis et ultra, erectus, foliosus, angulatus, glaber, hinc inde rubicundus, plerumque simplex.	STALK	from two to three feet high or more, upright, leafy, angular, smooth, here and there of a reddish colour, for the most part unbranched.
FOLIA	alterna, petiolata, pinnata, 3-vel 5-juga: foliolis oppositis, sessilibus, ovato-oblongis, supra viridibus, glabris, lucidiusculis, lineatis, minutim venulosis, rugosis, subtus nervosis, minutim tomentosis, cinereis, margine inciso-dentatis, undique ferratis, minutim ciliatis; terminatis foliolo majore, trifido-palmato.	LEAVES	alternate, standing on foot-stalks, pinnated, pinnæ from three to five pair, opposite, sessile, ovato-oblong, above green, smooth and somewhat shining, minutely veined, and wrinkled, the veins impressed, beneath ribbed, covered with an ash-coloured downy substance, the edge jagged, serrated, and finely edged with hairs, the terminal pinna large and deeply divided into three segments.
PETIOLI	subtus convexi, supra concavi; radicales triplo longiores.	LEAF-STALKS	convex beneath, concave above, those of the radical leaves three times as long as the others.
STIPULÆ	amplexicaules, acutæ, margine undique ferratæ, minutim ciliatæ; <i>partiales</i> in petiolo communi intra singulum par pinnarum, sub oppositæ, parvæ, inequales magnitudine, ovatæ, dentato-ferratæ, pariter subtus tomentosæ.	STIPULÆ	stem-clasping, pointed, serrated, and finely edged with hairs, the <i>partial</i> ones on the common foot-stalk betwixt each pair of pinnæ, nearly opposite, small, unequal in size, ovate, indented or serrated, and like the pinnæ downy underneath.
CORYMBUS	terminalis, erectus, minutim pubescens, pedunculatus, nudus, compositus e cymis plurimis inæqualibus, intermedia sessili.	CORYMBUS	terminal, upright, slightly pubescent, stalked, naked, composed of several unequal cymæ, the intermediate one sessile.
CALYX: PERIANTHIUM	monophyllum, subcampanulatum, ad lentem pubescens, pallidum, quinquefidum, laciniis ovatis, acutis, demum reflexis, <i>fig. 1.</i>	CALYX:	a PERIANTHIUM of one leaf, somewhat bell-shaped, if magnified slightly downy, of a pale colour, divided into five segments, which are ovate, pointed, and finally reflexed, <i>fig. 1.</i>
COROLLA: PETALA	quinque, albida, oblongo-rotundata, unguiculata, patentia, calyce duplo longiora, <i>fig. 2.</i>	COROLLA:	five whitish PETALS, oblong, roundish, clawed, spreading twice the length of the calyx, <i>fig. 2.</i>
STAMINA: FILAMENTA	viginti plura, filiformia, flavescens, longitudine corollæ, calyci inserta. ANTHERÆ subrotundæ, flavescens, <i>fig. 3.</i>	STAMINA:	twenty FILAMENTS or more, filiform, yellowish, the length of the corolla, inserted into the calyx. ANTHERÆ nearly round, and yellowish, <i>fig. 3.</i>
PISTILLUM: GERMINA	quinque, sex, five plura; STYLI totidem, superne incrassati, reflexa; STIGMATA capitata, <i>fig. 4.</i>	PISTILLUM:	GERMINA five, six, or more; STYLES as many, thickened above and turned back; STIGMATA forming little heads, <i>fig. 4.</i>
PERICARPIUM: CAPSULÆ	plurimæ, spiraliter contortæ, <i>fig. 5.</i>	SEED-VESSEL:	CAPSULES several, twisted together spirally, <i>fig. 5.</i>

The Meadow-Sweet has been justly celebrated for its fragrance and beauty, the agreeable odour which the whole plant, but more particularly the flowers, diffuse, has recommended it for the purpose of scenting rooms, and purifying the air, by strewing it on the floors; it is said not to affect the head like other perfumes: the leaves also, like those of Burnet, impart an agreeable flavour to wine and other liquors.

As an ornamental plant, it has long held a place in our gardens, not only in its wild state, but with variegated leaves and double flowers.

It puts in its claim also for medicinal virtues, which, however, do not appear to be of the most powerful kind; the leaves are recommended as mildly astringent, and useful in Dysenteries; the flowers are said to be antispasmodic and diuretic: their pleasant smell, in which their virtue resides, is soon dissipated by keeping.

It grows plentifully in wet meadows and by the sides of ponds and ditches, flowering from July to September.

Horses and kine are said to refuse it, sheep to eat it, and goats to be particularly fond of it; as it forms a great part of the pasturage in some meadows, it is of consequence for the husbandman more clearly to ascertain whether horses and cows refuse the young foliage, and whether they reject the whole plant when made into hay.

We have frequently observed small red tubercles on the leaves, which we have supposed to be occasioned by some species of Cynips.





Rosa canina.

ROSA CANINA. DOG ROSE.

ROSA *Lin. Gen. Pl.* ICOSANDRIA POLYGYNIA.

Cal. urceolatus, quinquefidus, carnosus, collo coarctatus. *Petala* 5. *Sem.* plurima, hispida, calycis interiori lateri affixa.

Raii Syn. ARBORES ET FRUTICES

ROSA *canina* germinibus ovatis, pedunculisque glabris, caule petiolisque aculeatis. *Lin. Syst. Vegetab.* p. 394. *Sp. Pl.* p. 704. *Fl. Suec.* n. 441.

ROSA spinis aduncis, foliis septenis, calycibus tomentosis, segmentis pinnatis et semipinnatis, tubis brevissimis. *Haller. Hist.* n. 1101.

ROSA *canina.* *Scopoli Fl. Carn.* n. 604.

ROSA sylvestris vulgaris flore odorato incarnato. *Baub. Pin.* p. 483.

ROSA sylvestris inodora f. *canina.* *Park.* p. 1017. sylvestris alba cum rubore folio glabro. *I. B. II.* p. 43. *Raii Syn.* p. 454. Cynosbatos et Cynorrhodon Officinarum. The common wild Briar or Dog's Rose, the Hep-tree. *Hudson. Fl. Angl.* ed. 2. p. 220. *Lightfoot Fl. Scot.* p. 262.

FRUTEX sepedalis et ultra, aculeatus, scandens, fer- pentive.	A SHRUB six feet or more in height, prickly, climb- ing or creeping.
CAULIS teres, viridis, seu purpureus, ramosus, acu- leatus, aculei validi, recurvi, juniores ruberrimi, senescentes cinerei.	STALK round, green, or purple, branched and prickly, prickles strong, crooked back, the young ones bright red, the old ones ash-coloured.
FOLIA alterna, pinnata, plerumque septena, inodora, foliolis sessilibus, ovatis, acutis, serratis, su- perne nitidis, inferne pallidioribus, inferiori- bus sensim minoribus, nervo medio subtus aculeato.	LEAVES alternate, pinnated, consisting for the most part of seven folioli, which are scentless, ovate, pointed, serrated, the upper side shining, the lower side paler, the lowermost ones gradually smallest, the mid-rib prickly underneath.
STIPULÆ denticulatæ, denticulis apice rubris, capi- tatis.	STIPULÆ finely toothed, the teeth tipped with red, and terminated by a globule.
FLORES terminales, bini seu terni, etiam seni, pedun- culati, pedunculis teretibus, nudis.	FLOWERS terminal, growing two or three, even sometimes six together, standing on foot- stalks, which are round and naked.
CALYX: calycis foliola lanceolata, longe caudata, duo simplicia, duo utrinque pinnata, pinnis latef- centibus, acutis, unum ab altero tantum latere pinnatum, fig. 1.	CALYX: the folioli lanceolate, and long-tailed, two of them simple, two pinnated on each side, the pinnæ broadish and pointed, and one pinnated only on one side, fig. 1.
COROLLA: PETALA quinque, obcordata, remotius- cula, carnea, ad basin pallidiora.	COROLLA: five PETALS inversely cordate, a little remote from each other, pale red, faintest towards the base.
STAMINA: FILAMENTA plurima, lutea, setacea. AN- THERÆ incumbentes, ovatae, fig. 2.	STAMINA: FILAMENTS numerous, yellow, taper- ing. ANTHERÆ incumbent, and ovate, fig. 2.
PISTILLUM: GERMINA plurima, intra tubum calycis, fig. 3. oblonga, lanata. STYLI filiformes. STIGMATA plurima, arcte conniventia in capi- tulum, fig. 3.	PISTILLUM: GERMINA numerous, within the tube of the calyx, fig. 3. oblong and woolly. STYLES filiform. STIGMATA numerous, closely uni- ting and forming a little head, fig. 3.
PERICARPIUM: BACCA ovalis, nitida, coccinea, uni- locularis.	SEED-VESSEL: an oval, shining, scarlet BERRY of one cavity.
SEMINA plurima, lutescentia, subovata, lanata, apice barbata.	SEEDS numerous, yellowish, somewhat ovate, woolly, bearded at top.

We remember somewhere to have seen an attempt to verify the Genera Plantarum: should such a plan ever be seriously agitated, we might recommend the following lines, written perhaps before any true notion was entertained of genus or species, as expressive of the Rose:

"Quinque sumus fratres, sub eodem tempore nati,
"Bini barbati, bini sine crine creati,
"Quintus habet barbam, sed tantum dimidiatam."

On examination it will appear, that this description, however quaint, accords exactly with the calyx in most, it not all, the species of this genus.

In some parts of Europe, particularly Austria and Carniola, the Roses are much more numerous than with us; and appear to create difficulties in determining the species to which we are happily strangers. SCOPOLI thus exclaims: "*Fungum et Rosam* quisque nescit, species vero genuinas utriusque generis ne Botanici quidem consummati." The present species, without some little attention, may however be mistaken for the *alba*, especially when its flowers are whiter than ordinary.

The Dog Rose is well known to produce the Hep, a fruit agreeable enough when ripe and mellowed by the frost. Of these a conserve is made, and kept in the shops, where it is more used as a vehicle for other medicines than for any virtue of its own.

A very singular mossy protuberance is often found on various parts of this Rose, which is occasioned by an insect, the *Cynips Rosæ* of LINNÆUS. Formerly this substance, under the name *Bedeguar*, was used medicinally; but is now with much propriety rejected.

Its lively blossoms decorate our hedges in the month of July. The fruit is late before it ripens. In the winter it is much sought after by many birds, especially the Pheasant.

The water distilled from the wild Rose is said to be infinitely more fragrant than the common Rose water. HALLER says of it, "Fragrantia ejus olei omnia alia odoramenta superat, ut inter regia dona sit."

The strong thorns with which this shrub is furnished make it valuable either for forming hedges of itself, or for planting with others of stronger growth. The best way of raising plants for this purpose will be from seeds.





Fragaria sterilis.

FRAGARIA STERILIS. BARREN STRAWBERRY.

FRAGARIA *Lin. Gen. Pl. ICOSANDRIA POLYGYNIA.*

Cal. 10. fidus. Petala 5. Receptaculum seminum ovatum, baccatum, deciduum.

Raii Syn. Gen. 25. HERBÆ SEMINE NUDO POLYSPERMÆ.

FRAGARIA *sterilis* caule decumbente, ramis floriferis laxis. *Lin. Syst. vegetab. p. 396. Sp. Pl. 709.*

FRAGARIA caule prostrato, foliis ternatis retusis sericeis. *Haller. hist. helv. 1113.*

FRAGARIA *sterilis*. *Bauh. pin. 327.*

FRAGARIA minime vesca. *Park. 758.*

FRAGARIA minime vesca feu sterilis, *Ger. emac. 998.*

FRAGARIA non fragifera, vel non vesca. *J. B. 2. 395. Raii Syn. ed. 3. p. 254.*

Hudson Fl. Angl. ed. 2. p. 222. Lightfoot Fl. Scot. p. 288.

RADIX perennis, nigricans, sublignosa.

CAULES plurimi, spithamæi, procumbentes, crassi, suffruticosi, castanei, stipulis hirsutis tecti.

FOLIA e furculis annotinis prodeunt, ternata, obovata, ferrata, pilosa, sericea, subtus albida, petiolis valde pilosis.

STIPULÆ radicales, plurimæ, ovato acuminatæ, membranaceæ.

PEDUNCULI plurimi, ascendentes, teretes, pilosi, biflori, bractæa trifoliata instructi.

FLORES albi, parvi.

CALYX: PERIANTHIUM monophyllum, planum, semidecemfidum, *fig. 3.* ex laciniis, quinque ovato acuminata sunt inter petala, petalis paulo longiora, quinque lanceolata, petalis paulo breviora, omnibus pilosis. *fig. 1.*

COROLLA: PETALA quinque, alba, parva, subrotunda, patentia, remota, calyci inserta.

STAMINA: FILAMENTA viginta circiter, in orbem posita, subulata, alba, primum inflexa, demum erecta, corolla breviora; ANTHERÆ flavæ, biloculares, *fig. 4. 5.*

PISTILLUM: GERMINA numerosa, minima, in capitulum collecta, subreniformia; STYLI simplices, lateri germinis inserti; STIGMATA simplicia. *fig. 7, 8, 9.*

RECEPTACULUM *floris* intra germina et filamenta glandulosum feu pulposum, villosum, minutum; *fructus* intra germina pilosum. *fig. 6.*

SEMINA plurima, exsucca, in capitulum collecta, e flavo fusca, appendiculo subvillosa, *fig. 10. 11.*

ROOT perennial, blackish and woody.

STALKS numerous, six or seven inches in length, procumbent, thick, somewhat shrubby, of a chestnut colour, and covered with hairy stipulæ.

LEAVES grow out of the last years shoots, three together, inversely oval, sawed at the edges, hairy, silky, whitish underneath, standing on footstalks which are very hairy.

STIPULÆ next the root, numerous, oval and pointed, of a membranous texture.

FLOWER-STALKS numerous, ascending, round, hairy, supporting two flowers, and furnished with a three-leav'd bractea.

FLOWERS white and small

CALYX: a PERIANTHIUM of one leaf, flat, divided half way down into ten segments, *fig. 3.* of those, five which are betwixt the petals are oval, with a long point, somewhat longer than the petals *fig. 1.* five lanceolate, a little shorter than the petals, and all of them hairy. *fig. 1.*

COROLLA: five, white, small, roundish, spreading PETALS, remote from each other, and fixed to the calyx. *fig. 2.*

STAMINA: about twenty FILAMENTS, placed in a circle, tapering, white, at first bending inwards, afterwards upright, shorter than the corolla; ANTHERÆ yellow, having two cavities. *fig. 4. 5.*

PISTILLUM: GERMINA numerous, minute, forming a little head, somewhat kidney-shaped; STYLES simple, inserted into the side of the germen; STIGMATA simple, *fig. 7, 8, 9.*

RECEPTACLE of the *flower* betwixt the germina and filaments glandular or pulpy, villous and of a scarlet colour, of the *fruit* betwixt the germina hairy. *fig. 6.*

SEEDS numerous, pulplish, forming a little head, of a yellowish brown colour, with an appendage to each somewhat villous. *fig. 10. 11.*

THE name of Sterilis by which this species of Strawberry is distinguished, has not been given it because the plant does not produce perfect seed, but because it affords no eatable fruit; its leaves point it out as a Strawberry, but its fructification has a greater affinity with the Potentilla, betwixt which genus and the Strawberry this plant indeed seems to be the link.

In all the woods about London, as also on some heaths, we find it in blossom as early as March, and in June it ripens its seed.



*Potentilla Anserina*

POTENTILLA ANSERINA. SILVER-WEED.

POTENTILLA Lin. Gen. Pl. ICOSANDRIA POLYGYNIA

Cal. 10. fidus. Petala 5. Sem. subrotunda, nuda, receptaculo parvo exsucco affixa.

Raii. Syn. Gen. 25. HERBÆ SEMINE NUDO POLYSPERMÆ.

POTENTILLA *Anserina* foliis pinnatis serratis, caule repente, pedunculis unifloris. Lin. Syst. Vegetab. p. 396. Spec. Pl. p. 710. Fl. Suec. n. 452.

FRAGARIA caule repente, foliis pinnatis serratis, subtus tomentosis, petiolis unifloris. Haller. hist. 1126.

POTENTILLA *Anserina*. Scopoli. Fl. Carn. n. 615.

POTENTILLA *Baubin*. pin. 321. Park. 593.

ARGENTINA Gerard. emac. 993.

PENTAPHYLLOIDES Argentina dicta Raii. Syn. p. 256. Wild Tanfy, Silver-weed.

Hudson Fl. Angl. ed. 2. p. 222.

Lightfoot Fl. Scot. p. 268.

Oeder. Fl. Dan. t. 544.

RADIX perennis, ramosa, extus nigro fusca seu albida pro ratione ætatis, fibrillosa, descendens.

CAULES seu potius flagellæ, plures, in longum extensæ, teretes, geniculatæ, rubicundæ, pubescentes, repentes.

FOLIA subtus villosa, albido-cinerea, supra pubescentia, viridia, sæpe etiam villosa, cinerea, petiolata, pinnata cum impari: foliolis sessilibus, oppositis, ovalibus, inciso-serratis; quorum inferiora sensim minora; radicalia longius petiolata, procumbentia.

STIPULÆ parviusculæ, ovales, acutæ, in ipso petiolo communi inter paria foliolorum, superne sessiles, oppositæ, integerrimæ, subtus pariter villosæ.

PETIOLI villosi, supra plani, basi vagina concava, membranacea, tenera, pubescente, in petiolum utrinque decurrente.

VAGINÆ caulinae, h. e. stipulæ, ad genicula caulis solitariae, apice bifidæ, sæpe multifidæ, ferentes foliolum oblongum dentatum.

FLORES pedunculati, ex vaginis caulis stipulaceis, solitarii.

PEDUNCULI teretes, villosi, uniflori, erecti.

CALYX: PERIANTHIUM monophyllum, villosum, 10. fidum: laciniis ovatis, imbricatis, patenti reflexis; quarum 5 interiores integræ, acutiusculæ, basi lutescentes; exteriores 5 obtusiusculæ, incisæ. fig. 1.

PETALA quinque, lutea, ovata, obtusa, sessilia, calyci inserta. fig. 2.

STAMINA: FILAMENTA plurima, subulata, lutea, calyci inserta, erecta; ANTHERÆ cordatæ, obtusæ, erectæ, utrinque planæ. fig. 3.

PISTILLUM: GERMINA plurima, ovata, obusa, alba, villo receptaculi circumdata; STYLI subulati, germinis lateri adnati, lutescentes, staminibus breviores, STIGMATA truncata. fig. 4. 5.

RECEPTACULUM barbatum.

ROOT perennial, branched, externally of a dark brown or whitish colour according to its age, furnished with small fibres, and penetrating deep.

STALKS or rather runners, several extended to a considerable length, round, jointed, reddish, downy and creeping.

LEAVES hoary on the under side, of a whitish ashy-colour, on the upper side downy, and green, though sometimes also hoary and silvery, standing on footstalks, pinnated, with an odd one at the extremity; the small leaves sessile, opposite, oval, deeply cut in on the edge; the lowermost gradually the smallest; the radical ones standing on longer footstalks than the others and procumbent.

STIPULÆ small, oval, and pointed, placed on the common footstalk itself, betwixt each pair of the small leaves, above sessile, opposite, entire, underneath hoary also.

LEAF-STALKS villous, flat on the upper side, forming a sheath at the bottom, which is hollow, membranous, tender, downy, running down each side of the leaf stalk.

SHEATHS of the stalks or rather the stipulæ of the runners, are placed singly at the joints, bifid and often multifid at top, bearing an oblong indented small leaf.

FLOWERS standing on footstalks, proceeding singly from the joints of the runners.

FLOWER-STALKS round, villous, upright, supporting one flower.

CALYX: a PERIANTHIUM of one leaf, villous, divided into 10 segments, which are ovate, the edges laying one over the other, spreading, and somewhat turned back, the 5 innermost are entire, rather pointed, yellowish at the base, the outermost bluntish and jagged fig. 1.

PETALS five, of a yellowish colour, ovate, obtuse, sessile, twice the length of the calyx, very much expanded, and inserted into the Calyx. fig. 2.

STAMINA: numerous FILAMENTS, tapering, yellow, inserted into the Calyx, upright; ANTHERÆ heartshaped, blunt, upright, flat on both sides. fig. 3.

PISTILLUM: GERMINA numerous, ovate, obtuse, white, surrounded by the hairs, of the receptacle; STYLES tapering, growing out of the side of the germen, of a yellowish colour, shorter than the stamina; STIGMATA truncated. fig. 4. 5.

RECEPTACLE hairy.

FEW plants render themselves more conspicuous by the whiteness of their leaves than the *Potentilla Anserina*, indeed its old name of *Argentina* was derived from this very circumstance; it must be remark'd however that in this particular it is subject to much variation, the leaves being sometimes silvery on both sides, and sometimes entirely green, but it is most commonly found with the upper side of the leaves green, and the under side silvery; the more clayey the soil, the whiter the leaves are generally found to be.

It is a plant which thrives most in moist situations, especially if the soil be clayey, and the water apt to stagnate on it, in such situations it may be found almost every where about London, flowering from July to September.

RAY informs us on very respectable authority that the Boys about *Settle* in Yorkshire, call the roots of these plants by the name of *Moors*, and that in the winter season they dig them up and eat them, and that he himself had been a witness to their being turned up and greedily devoured by swine—it deserves the consideration of the farmer how far these animals may be render'd useful in this respect, not as to this plant only, but many others which are either noxious or useles.

Its medicinal virtues are wholly out of repute.

POTTER, ELLA ANNIE

1871-1872

1871-1872

1871-1872

1871-1872





Potentilla reptans

POTENTILLA REPTANS. COMMON CINQUEFOIL OR FIVE LEAVED GRASS.

POTENTILLA *Linnaei* Gen. Pl. ICOSANDRIA POLYGYNIA:

Raii Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

POTENTILLA *reptans* foliis quinatis, caule repente, pedunculis unifloris. *Lin: Syst. Vegetab. p. 398. Fl. Suecic. p. 178.*

FRAGARIA foliis quinatis ferratis, petiolis unifloris, caule reptante. *Haller hist. v. 2. p. 47.*

QUINQUEFOLIUM majus repens. *Baubin pin. p. 325. Gerard emac. 987.*

PENTAPHYLLUM vulgatissimum *Parkinson 398. Raii Syn. p. 255.*

POTENTILLA *reptans. Hudson. Fl. Angl. p. 197. Scopoli Fl. Carniol. p. 361*

RADIX perennis, fusiformis, paucis fibrillis instructa, intra terram profunde penetrans, crassitie digiti minimi aut pollicis etiam in annosis, externe fordide castanea.

CAULES numerosi, teretes, glabri, repentes, purpurei.

FOLIA quinata, etiam septena occurrunt, ferrata, venosa, inæqualia, parum hirsuta, petiolis longis indidentia, per paria e geniculis caulium ad magna intervalla prodeuntia.

STIPULÆ geminae, trifoliatae, foliolis ovatis.

PETIOLI uniflori, longi, suberecti.

CALYX: PERIANTHIUM monophyllum, planiusculum, decemfidum, laciniis alternis minoribus, saepe reflexis, *fig. 3, 4, 5.*

COROLLA: PETALA quinque, subrotundo-cordata, flava, unguibus calyci inserta, *fig. 6.*

STAMINA: FILAMENTA viginti, subulata, Corolla breviora, margini interiori glandulosa calycis inserta, in duas series distributa; ANTHERÆ oblongae, compressae, flavae, biloculares, loculae membranâ divisae, infidentes, *fig. 7, 8.*

PISTILLUM: GERMINA numerosa, in capitulum collecta; STYLI filiformes filamentis breviores, lateri Germinis inserti, persistentes; STIGMATA minima, obtusa, *fig. 9, 10.*

SEMINA numerosa, parva, fusca, stylo persistente terminata, *fig. 11, 12.*

ROOT perennial, tapering, furnished with few fibres, penetrating deeply into the earth, the size of the little finger, or even of the thumb when old, externally of a dark chestnut colour.

STALKS numerous, round, smooth, and creeping.

LEAVES quinate, or growing five together, sometimes even seven, serrated, veiny, unequal in their size, slightly hairy, sitting on long footstalks, which proceed in pairs from the joints of the stalks at considerable distances.

STIPULÆ growing in pairs, composed of three oval-shaped leaves.

FOOT-STALKS of the flowers uniflorous, long, and nearly upright.

CALYX: a PERIANTHIUM of one leaf, flattish, divided into ten segments, the segments alternately smaller and frequently turned back, *fig. 3, 4, 5.*

COROLLA: five PETALS of a roundish heart-shaped figure, and yellow colour, inserted into the Calyx by their Ungues or claws, *fig. 6.*

STAMINA twenty FILAMENTS tapering: shorter than the Corolla, inserted into the inner edge of the Calyx, which puts on a glandular appearance, and placed in two rows; ANTHERÆ oblong, flat, bilocular, the bags or cavities divided by a membrane, sitting on the filaments, *fig. 7, 8.*

PISTILLUM: the GERMINA numerous, collected into a little head; the STYLES filiform, shorter than the filaments, inserted into the side of the Germin and continuing; the STIGMATA very small and blunt, *fig. 9, 10.*

SEEDS numerous, small, brown and terminated by the Style, *fig. 11, 12.*

The Roots of *Cinquefoil* and many other plants of the Class *Icosandria*, possess considerable virtues as astringent medicines, and may be used in the same Cases in which *Bistort* is recommended.

It has likewise been used in some places for the purpose of tanning Leather where better materials for that purpose are with difficulty acquired.

A Tea or infusion of the leaves is in use among the Country People as a drink in Fevers.

Most sorts of Cattle are fond of the leaves, but it does not appear to be a plant worth cultivating on that account.

The Larva or Caterpillar of the *Phalæna Rubi*, *vid. Roesel, Suppl. tab. 69, Albin tab. 81*, feeds on the leaves in Autumn, although a plant to which that Insect is by no means confined.

It grows very common in meadows and on banks by the road sides, and flowers in July, August, and September.

It affords the botanic Student a very good example of the *Caulis repens* or *Creeping Stalk*.





Tormentilla officinalis.

TORMENTILLA OFFICINALIS. TORMENTIL.

TORMENTILLA *Lin. Gen. Pl. ICOSANDRIA POLYGYNIA.*

Cal. 8-fidus. Petala 4. Sem. subrotunda, nuda, receptaculo parvo exsucco affixa.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

TORMENTILLA *officinalis.*

TORMENTILLA *erecta* caule erectiusculo, foliis sessilibus. *Lin. Syst. Vegetab. p. 399. Sp. Pl. p. 716. Fl. Suec. n. 459.*

FRAGRARIA *tetrapetala*, foliis caulinis sessilibus, quinatis. *Haller. hist. n. 1117.*

POTENTILLA *Tormentilla erecta. Scopoli Fl. Carn. n. 620.*

TORMENTILLA *sylvestris. Bauh. Pin. 326.*

TORMENTILLA *Ger. emac. 992. vulgaris Parkinsf. 394.*

Raii Syn. p. 257. Tormentil, Septfoil. Hudson Fl. Angl. ed. 2. p. 225. Lightfoot Fl. Scot. p. 272.

RADIX *crassa, tuberosa, variæ magnitudinis et formæ, extus fusca, intus rubicunda.*

CAULES *plures ex una radice, spithamæi et ultra, procumbentes, teretes, filiformes, pilosi, inferne simplices, et sæpe nudi, superne ramosi.*

FOLIA *alterna, sessilia, amplexicauli-perfoliata, multifida, utrinque parce pubescentia, supra saturate viridia, laciniis obverse lanceolatis, obtusis, superne latioribus, incis, patentibus, tribus exterioribus duplo longioribus.*

PEDUNCULI *axillares, filiformes, elongati, uniflori, nudi, pilosi.*

FLORES *primo cernui, postea erecti.*

CALYX: PERIANTHIUM *monophyllum, octopartitum, pubescens, laciniis ovatis, acutis, patentibus, alternis minoribus, fig. 1.*

COROLLA: PETALA *quatuor, lutea, obcordata, plana, patentia, unguibus calyci inserta, fig. 2.*

STAMINA: FILAMENTA *sedecim circiter, calyci inserta, corolla breviora; ANTHÆ simplices, luteæ, fig. 3.*

PISTILLUM: GERMINA *octo circiter, glabra, subrotunda, in capitulum conniventia, fig. 4. STYLI filiformes, longitudine staminum, lateri germinis inserti; STIGMATA obtusa, fig. 5. auct.*

RECEPTACULUM *villosum.*

SEMINA *tot quot germina, oblongiuscula, obtusa, glabra, nuda, lutescentia, fig. 6.*

ROOT *thick, and tuberos, various both in size and shape, externally brown, internally red.*

STALKS *several from one root, a span or more in length, procumbent, round, filiform, hairy, below simple and often naked, above branched.*

LEAVES *alternate, sessile, nearly perfoliate, on each side slightly pubescent, above of a deep green colour, divided into many segments, the segments inversely lanceolate, obtuse, broadest above, serrated on the edges, and spreading, the three outermost twice as long as the others.*

FLOWER-STALKS *axillary, filiform, long, supporting one flower, naked, and hairy.*

FLOWERS *at first drooping, afterwards upright.*

CALYX: a PERIANTHIUM *of one leaf, deeply divided into eight segments, downy, the segments ovate, pointed, alternately least, fig. 1.*

COROLLA: four PETALS, *of a yellow colour, inversely heart-shaped, flat, spreading, inserted by the claws into the calyx, fig. 2.*

STAMINA: about sixteen FILAMENTS, *inserted into the calyx, shorter than the corolla; ANTHÆ simple and yellow, fig. 3.*

PISTILLUM: GERMINA *about eight, smooth, roundish, forming a little head, fig. 4. STYLES filiform, the length of the stamina, inserted into the side of the germen; STIGMA blunt, fig. 5. magnified.*

RECEPTACLE *villous.*

SEEDS *as numerous as the germina, rather oblong, obtuse, smooth, naked, and yellowish, fig. 6.*

Tormentil is a plant of considerable importance in rural œconomy and medicine.

The roots are used in most of the Western Isles, and in the *Orkneys*, for tanning of leather; in which intention they are proved, by some late experiments, to be superior even to the oak-bark. They are first of all boiled in water, and the leather afterwards steeped in the cold liquor. In the islands of *Tirey* and *Col* the inhabitants have destroyed so much ground by digging them up, that they have lately been prohibited the use of them. *Lightfoot Fl. Scot. p. 272.*

Considered medicinally, Tormentil root is a strong and almost flavourless astringent, and gives out its astringency both to water and rectified spirit, most perfectly to the latter: the watery decoction, of a transparent brownish-red colour whilst hot, becomes turbid in cooling like that of the Peruvian bark, and deposits a portion of resinous matter: the spirituous tincture, of a brighter reddish colour, retains its pellucidity. The extracts obtained by inspissation, are intensely styptic, the spirituous most so. It is generally given in decoction: an ounce and a half of the powdered root may be boiled in three pints of water to a quart, adding, towards the end of the boiling, a drachm of cinnamon: of the strained liquor, sweetened with an ounce of any agreeable syrup, two ounces or more may be taken four or five times a day.

We are by no means fond of changing the Linnæan names, but on the present occasion we are, in some degree, compelled to it, from the great inconvenience we have experienced in calling a plant *erecta*, which with us is always procumbent, unless drawn up by surrounding herbage, or by growing in woods, where it more rarely occurs.

Its most usual place of growth is on heaths, moors, and mountainous pastures, where it is extremely common, and flowers from June to September.

LINNÆUS appears to have been induced to call this plant *erecta*, by way of contrast to the *Tormentilla reptans*, which he enumerates as a species: such a plant is certainly figured and described by several English Botanists, but we never yet saw any species of Tormentil with a creeping stalk; we have observed the common Tormentil vary much in size, in the length of its branches, and in the number and size of its petals, we have noticed the leaves sometimes to have foot-stalks, and we have for several years cultivated a *large variety* of this plant, which from one root has extended its stalks nearly a yard every way, and though they have lain close to the ground, on a moist soil, we never could perceive the least tendency in them to throw out roots at the joints; hence we are induced to conclude, that no other than one *species* of Tormentil exists.

As the Tormentil varies with five petals, so the *Potentilla reptans* has sometimes only four, and, perhaps, a starved specimen of the latter, originally gave rise to the *Tormentilla reptans*.

This occasional variation in the number of the petals, &c. at once destroys the generic character of the Tormentil; for, add one-fifth part more of the fructification to those which already exist in the Tormentilla, and you make a *Potentilla* of it; or, *vice versa*, take one fifth-part of the fructification from a *Potentilla*, and it becomes a *Tormentilla*; they ought surely then to form but one genus: SCOPOLI unites them, facetiously remarking, *Monoculum Hominem ab humano genere quis separabit*: HALLER joins the *Potentilla*, *Tormentilla*, *Fragraria*, and *Sibbaldia*, in one family.







Geum urbanum.

GEUM URBANUM. COMMON AVENS.

GEUM *Linnaei* Gen. Pl. ICOSANDRIA POLYGYNIA.

Cal. 10-fidus. Petala 5. Sem. arista geniculata.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

GEUM *urbanum* floribus erectis, fructibus globosis villosis: aristis uncinatis nudis, foliis lyratis.

Linnaei Syst. Vegetab. p. 399. Sp. Pl. p. 716. Fl. Suecic. p. 179.

GEUM foliis pinnatis, pinna ultima trilobata; floribus patulis, tubis aduncis. *Haller hist. n. 1130.*

CARYOPHYLLATA urbana. *Scopoli Fl. Carniol. p. 364.*

CARYOPHYLLATA vulgaris. *Baubin pin. 321.*

CARYOPHYLLATA *Gerard emac. 995. Parkinson 136.*

Raii Syn. Avens, Herb Bennet.

Hudson. Fl. Angl. p. 198.

Lightfoot Fl. Scot. p. 273.

RADIX perennis, fibrosa, fusca, sapore et odore aromatico Caryophyllorum.

CAULES plures, pedales aut bipedales, suberecti, parum flexuosi, subangulosi, hirsutuli, ramosi.

FOLIA radicalia admodum variantia, plerumque vero pinnata, petiolata, vagina petiolorum ciliata, pinnâ extimâ magnâ, trilobatâ aut tripartitâ pinnis lateralibus paucis, parvis, inæqualibus, omnibus inciso-ferratis, venosis, hirsutulis, caulina tripartita aut terna.

STIPULÆ duæ, magnæ, subrotundæ, foliis fimiles.

PEDUNCULI solitarii, suberecti, teretes, hirsutuli.

CALYX: PERIANTHIUM monophyllum, decemfidum, patens, laciniis alternis minimis, acutis, hirsutis, demum reflexis; laciniis majoribus interne villosis, margine crassis, *fig. 1.*

COROLLA: PETALA quinque rotunda, flava, longitudine calycis, remota, unguibus brevissimis, *fig. 2.*

STAMINA: FILAMENTA plurima, flavescentia, subulata, calyci affixa, primum inflexa, demum erecta: ANTHERÆ subrotundæ, flavæ, demum fuscæ, *fig. 3, 4.*

PISTILLUM: GERMINA numerosa, in capitulum collecta, pilosa: STYLUS medio geniculatus, apice paululum incrassato: STIGMA simplex, *fig. 5.*

SEMINA numerosa, compressa, hispida, Stylo longo geniculato aristata, *fig. 6,* receptaculo paleaceo infidentia, *fig. 7.*

ROOT perennial, fibrous, of a brown colour, with the aromatic taste and smell of Cloves.

STALKS several, from one to two feet high, nearly upright, a little crooked, slightly angular, hairy, and branched.

LEAVES: radical leaves varying very much, most commonly pinnated, and standing on a foot-stalk, the sheath of which is edged with hairs, the outermost leaf or pinna large, divided a little way down the leaf, or nearly to the base; the lateral leaves few, small and unequal, all of them deeply ferrated, veined, and hairy; the leaves of the stalk deeply divided into three segments, or entire leaves.

STIPULÆ two, large, of a roundish figure like the leaves.

FLOWER-STAKS single, nearly upright, round and hairy.

CALYX: a PERIANTHIUM of one leaf, divided into ten segments, and spreading; the alternate segments very minute, pointed, hirsute, finally turning back; the larger segments villous on the inside, and thick at the edge, *fig. 1.*

COROLLA: five roundish yellow PETALS, the length of the Calyx, at a little distance from each other, having very short claws, *fig. 2.*

STAMINA: FILAMENTS numerous, of a yellowish colour, tapering, affixed to the Calyx, at first bending inward, lastly becoming upright: ANTHERÆ roundish, of a yellow colour, finally brown, *fig. 3, 4.*

PISTILLUM: GERMINA numerous, collected into a head, hairy: STYLE jointed in the middle, a little thickened at top: STIGMA simple, *fig. 5.*

SEEDS numerous, flattened, hispid, terminated by a long Arista, crooked near the extremity, *fig. 6,* seated on a hairy receptacle, *fig. 7.*

THE *Geum urbanum* is a very common plant with us, in woods and hedges, flowering from May to September.

The root possesses a degree of astringency, joined to an aromatic flavour like that of Cloves, whence its name of *Caryophyllata*.

Infused in beer, it renders it more fragrant, and prevents it from soon turning sour; *Linnaei Fl. Suecic.*

Chewed in the mouth, it takes off from a disagreeable breath; *Rutty. Mat. Med.*

An infusion of the root in water, given in malignant fevers, has been attended with bad effects, producing delirium: but an infusion of the root in wine, strengthens the stomach and bowels, and is serviceable in the diarrhæa and dysentery, wounds, chronic diseases arising from a laxity of fibre, and intermitting fevers; *Haller hist. p. 3. v. 2.*

The root is said to possess the most virtue when it grows in a dry situation.

It is eaten by Kine, Goats, Sheep, and Swine; but not readily by Horses.

It is distinguished from our other *Geum* by its yellow flowers.





GLAUCIUM CORNICULATUM. RED HORNED-POPPY.

CHELIDONIUM. *Linn. Gen. Pl.* POLYANDRIA MONOGYNIA.

Cor. 4-petala. *Cal.* 2-phyllus. *Siliqua* 1-locularis, linearis.

Raii Syn. Gen. 22. *Herbæ vasculiferæ flore tetrapetalo anomalæ.*

CHELIDONIUM *corniculatum* pedunculis unifloris, foliis sessilibus pinnatifidis, caule hispido, *Linn. Syst. Veg. ed. 14. Murr. p. 489. Sp. Pl. ed. 3. p. 724. Hudf. Fl. Angl. ed. 2. p. 229.*

GLAUCIUM *hirsutum* flore phœniceo. *Tourn. Infl.* 251.

PAPAVER *corniculatum* phœniceum *hirsutum*. *Baub. Pin.* 17

PAPAVER *corniculatum* rubrum. *Dod. Pempt.* 449.

PAPAVER *cornutum* phœniceo flore. *Clus. Hist.* 2. p. xci.

PAPAVER *cornutum* flore rubro. *Ger. Herb. p. 294. f. 2. emac. 367. f. 2.* Red-horned Poppy. also *fig. 3.* in *Ger. Herb.*

RADIX annua, fusiformis, parum fibrosa, flavescens.

CAULIS pedalis ad sesquipedalem, erectiusculus, teres, leviter sulcatus, pilis longis distantibus hispidus, pallide virens, ramulosus, rami cauli similes, divaricato-patuli.

FOLIA candicantia, radicalia in orbem posita, erectiuscula, petiolata, cætera sessilia, semiamplexantia, alterna, remota, sinuato-pinnatifida, utrinque pilis uti caulis hispida; laciniae in radicalibus alternæ; extimæ confluentes, in superioribus caulinis oppositæ, dentatæ, dentibus obtusiusculis, mucronatis, nunc remotis, nunc approximatis, ad apices plerumque ternis.

FLORES solitarii, magni, rubro-crocei, erecti, caduci.

PEDUNCULI terminales, foliis oppositi, breves, ad apices dilatati, cauli similes.

CALYX: PERIANTHIUM pedunculo brevius, diphyllum, hirsutissimum, foliolis ovato-oblongis, concavis, caducis.

COROLLA: PETALA 4. subrotunda, inæqualia, basi angustiora, plana, margine eroso-crenata, ad basin macula oblonga nigra notata, *fig. 1.*

STAMINA: FILAMENTA 15 circiter, planiuscula, corollæ breviora; ANTHERÆ oblongæ, obtusæ, compressæ, erectæ, didymæ, pallide aurantiacæ, *fig. 2.*

PISTILLUM: GERMEN cylindraceum, sericeo-tomentosum, longitudine staminum; STYLUS nullus; STIGMA capitatum, crassum, bifidum, viride, *fig. 3.*

PERICARPUM: SILIQUA cylindracea, stricta, subcompressa, uncias circiter 8 longa, pilis appressis scabriuscula, stigmate bilabiato terminata, bivalvis.

SEMINA plurima, nigricantia, subreniformia, pulchre reticulata, dissipatione spongiosa nidulantia.

ROOT annual, spindle-shaped, slightly fibrous, yellowish.

STALK a foot or a foot and a half in height, somewhat upright, round, slightly grooved, covered with long distant hairs, of a pale green colour, branched, branches like the stalk, spreading widely.

LEAVES whitish, those next the root placed circularly, somewhat upright, standing on foot-stalks, the rest sessile, half embracing the stalk, alternate, remote, sinuated and pinnatifid, covered on both sides with hairs as on the stalk, the segments in the root-leaves alternate, the outermost ones confluent, in the upper stalk leaves opposite, toothed, teeth somewhat obtuse, terminating in a short point, sometimes remote, sometimes near each other, the tops having usually three.

FLOWERS growing singly, large, bright red, inclining to orange, upright, quickly falling.

FLOWER-STALKS terminal, opposite the leaves, short, dilated at top, like the stalk.

CALYX: a PERIANTHIUM shorter than the flower-stalk, two leaved, very hairy, leaves ovato-oblong, quickly falling.

COROLLA: 4 PETALS, roundish, unequal in size, narrower at the base, the edge notched or knawed, the base marked with an oblong, black spot, *fig. 1.*

STAMINA: about fifteen FILAMENTS, a little flattened, shorter than the corolla; ANTHERÆ oblong, obtuse, flattened, erect, double, of a pale orange colour, *fig. 2.*

PISTILLUM: GERMEN cylindrical, covered with a silky down, length of the stamina; STYLE none; STIGMA forming a head, thick, bifid, and green, *fig. 3.*

SEED-VESSEL: a cylindrical Pod, straight, somewhat flattened, about 8 inches long, roughish, with hairs pressed to it, terminated by the two-lip'd stigma, having two valves.

SEEDS numerous, blackish, somewhat kidney-shaped, beautifully reticulated, nestling in the spongy receptacle.

Most of the old Botanists regarded the *Horned-Poppy* as a *Papaver*: *TOURNEFORT* made it a distinct genus by the name of *Glaucium*: *LINNÆUS* united it with the *Chelidonium*, with which, in our humble opinion, it has less affinity than with *Papaver*; why he should not have followed *TOURNEFORT* in this instance, we see no good reason; surely the structure of the seed-vessel justifies the great founder of genera, in separating it from the other two; so have thought the most celebrated systematic Botanists of modern times; in particular, *HALLER*, *ADANSON*, *JUSSIEU*, and *SCOPOLI*; the latter observes, that if the fruit is not to be attended to in forming the generic character, neither should the Poppy be separated from the *Celandine*.

This ornamental species, distinguished by the colour of its flowers, its general roughness, and place of growth, and since *RAY*'s time discovered by Mr. *STILLINGFLEET* in the sandy corn-fields of some parts of Norfolk, is a well-known European plant, growing wild in corn-fields, by road sides, in Spain, France, and Germany; it flowers in June and July, and ripens its seed in August. *CLUSIUS* observes, that as the plant grows old it becomes smoother, and a smooth variety of it is mentioned by *C. BAUHINE*.

If this plant be once introduced to a garden, in which the soil is light and the situation dry, it will come up yearly from seeds spontaneously scattered.





Papaver Rhoeas.

PAPAYER RHOEAS. SMOOTH-ROUND-HEADED POPPY.

PAPAYER *Lin. Gen. Pl.* POLYANDRIA MONOGYNIA.

Cor. 4-petala. *Cal.* 2-phyllus. *Capsula* 1-locularis, sub stigmate persistente poris dehiscens.

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

PAPAYER *Rhoeas* capsulis glabris globosis, caule piloso multifloro, foliis pinnatifidis incisis. *Lin. Syst. vegetab.* p. 407. *Spec. plant.* p. 726. *Fl. Suecic.* n. 468.

PAPAYER foliis femipinnatis hispidis fructu ovato glabro. *Haller. hist.* n. 1064.

PAPAYER *Rhoeas Scopoli. Fl. Carn.* n. 648.

PAPAYER *erraticum majus. Baubin pin.* 171.

PAPAYER *Rhoeas. Ger. emac.* 371.

PAPAYER *erraticum Rhoeas* five sylvestre. *Park.* 397.

PAPAYER laciniato folio, capitulo brevior glabro annuum *Rhoeas* dictum. *Raii Syn.* p. 308.
Red Poppy or Corn Rose.

Hudson. Fl. Angl. ed. 2. p. 230.

Lightfoot. Fl. Scot. p. 269.

RADIX annua, simplex, fibrosa.

CAULIS pedalis ad bipedalem, erectus, ramosus, teres, basi purpurascens, hispidulus, pilis basi bulbosis.

FOLIA sessilia, basi subvaginantia, utrinque hirsuta, pinnatifida, incisa, laciniis seu foliolis inæqualiter dentato ferratis, dentibus margine revolutis, apice callosis et spinula terminatis.

PEDUNCULI erecti, uniflori, teretes, hispidi, pilis patentibus.

CALYX: PERIANTHIUM diphyllum, ovatum, hispidulum, foliolis concavis, margine membranaceis, deciduis.

COROLLA: PETALA quatuor, magna, patentia, inæqualia, coccinea, ad basin maculâ nigrâ, nitidâ notata.

STAMINA: FILAMENTA numerosa, purpurea, capillaria; ANTHERÆ subrotundæ, compressæ; POLLEN viride. *fig.* 1. 2.

PISTILLUM: GERMEN ovatum, truncatum; STYLUS nullus, STIGMA convexum, radiatum; radiis circiter decem purpureis. *fig.* 3.

PERICARPIUM: CAPSULA ovata, apice truncata, et crenata, lævis, lineis elevatis tot quot stigmatibus notata, stigmate plano persistente crenato tecta. *fig.* 4.

SEMINA plurima, minima, ex atro-purpurascencia. *fig.* 5.

ROOT annual, simple and fibrous.

STALK from one to two feet high, upright, branched, round, purplish at bottom, somewhat hispid, the hairs bulbous at the base.

LEAVES sessile, forming a kind of sheath at bottom, hairy on both sides, pinnatifid and jagged, the small leaves into which the large one is divided unequally toothed, or sawed, each tooth rolled back at the edge, callous at top and terminated by a small spine.

FLOWER-STALK upright, each supporting one flower, round, hispid, the hairs projecting horizontally.

CALYX: a PERIANTHIUM of two leaves, ovate, hispid, the leaves hollow, membranous on the edge and deciduous.

COROLLA: four petals, large, spreading, unequal, of a bright scarlet colour, marked at the base with a shining black spot.

STAMINA: FILAMENTS numerous, purple and very slender; ANTHERÆ roundish, flatten'd: POLLEN green. *fig.* 1. 2.

PISTILLUM: GERMEN ovate, cut off at top; STYLE wanting; STIGMA convex and radiated, rays about ten of a purple colour. *fig.* 3.

SEED-VESSEL, shape of an egg cut off at top, where it is scolloped, smooth, mark'd with as many raised lines as there are stigmata, and covered with the stigma which is permanent, flat, and also scolloped on the edge. *fig.* 4.

SEEDS numerous, very minute, of a dark purple colour. *fig.* 5.

WE have growing wild in the neighbourhood of London, four different species of Poppy that have some affinity both in their foliage and flowers to one another, viz. the *Papaver Rhoeas* smooth-round-headed Poppy, *Papaver dubium* smooth-long-headed Poppy, *Papaver hybridum* prickly-round-headed Poppy, and *Papaver Argemone* prickly-long-headed Poppy. of these the first, which is here figured is by far the most common; growing chiefly in Corn-fields, it has acquired generally the name of Corn Poppy, in some countries it is distinguished by the name of Red-Weed.

A Syrup made from an infusion of the flowers is used by the Apothecary, more for the sake of the beautiful colour it imparts to the medicine, than from its possessing any active principle; the Gardener is carefull to cultivate its numerous varieties, while the Farmer is no less anxious to root it from his fields, in which it is often so predominant as to appear like the real crop.

Although a Corn-field be its most usual place of growth it is nevertheless frequently found on dry banks and on walls, and according to such situations it varies extremely in its foliage, but constantly retains two of its striking characters, viz. the round or rather urn-shaped form of its capsules, and the projecting hairs on the flowering stem; these always distinguish it from the *dubium* to which it is very nearly allied.

It flowers from June to August.





Papaver dubium.

PAPAVER DUBIUM. LONG-SMOOTH-HEADED POPPY.

PAPAVER *Lin. Gen. Pl.* POLYANDRIA MONOGYNIA.

Cor. 4-petala. *Cal.* 2-phyllus. *Capsula* 1-locularis, sub stigmate persistente poris dehiscens.

Raii Syn Gen. 22. HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

PAPAVER *dubium* capsulis oblongis glabris, caule multifloro setis adpressis, foliis pinnatifidis incisis.

Lin. Syst. Vegetab. p. 407. *Sp. Pl.* 726. *Fl. Suec. n.* 467.

PAPAVER foliis hispidis, pinnatis, pinnis lobatis, fructu ovato lævi. *Haller. Hist. n.* 1063.

PAPAVER erraticum capite longissimo glabro. *Tourn. Inst.* 238.

PAPAVER laciniato folio, capitulo longiore glabro, seu Argemone capitulo longiore glabro. *Mor. H.*

R. Bl. H. Ox. II. 279. *S. III. t.* 14. *fig.* 11. *Raii Syn.* p. 309. Smooth-headed Bastard-

Poppy. *Hudson. Fl. Angl.* p. 231. *Lightfoot Fl. Scot.* p. 280.

This plant, in its general appearance, is so very similar to the *Papaver Rhæas*, as often to be overlooked and mistaken for that species. Were the flowers white, as JACQUIN informs us they constantly are in Austria, the two plants would be much more obviously distinguished; but, fortunately, it has a few characters which always point it out to the attentive observer. These are principally drawn from the Capsules and Flower-stalks; the Capsules of the *Rhæas* are broad and short, somewhat resembling one-half of an egg cut transversely: those of the *dubium* are long and slender. Such is the general appearance of the two Capsules, which, however, are subject to considerable variation. In the *Rhæas*, the hairs on the Flower-stalk are strong, rigid, and spread horizontally; in the *dubium* they are finer, and pressed upward close to the stalk*. On the young Flower-stalks they assume a shining, silvery-white appearance, which looks very beautiful. Below the Flower-stalks, on the other parts of the plant, the hairs spread out. In this last character we do not recollect to have ever been deceived. Besides these, which are the principal differences, the stalks and leaves of the *dubium* are much paler: the flowers are also much smaller, and less intensely red.

Culture produces no alteration in the constancy of its characters.

In Battersea Fields, where the soil is light, the *dubium* is nearly as common, and as much of a weed, as the *Rhæas*; nor is it unfrequent on walls, in the environs of the Metropolis; according to Mr. LIGHTFOOT, it is the most common species in North Britain.

In a corn field, betwixt Croydon and Shirley Common, we once noticed several specimens of this poppy with very large Capsules, which, if we mistake not, were diseased.

It flowers in June.

* JACQUIN's figure represents the hairs of the Flower-stalks reversed, and the leaves too finely divided.





Papaver Argemone.

J. Sowerby del et sculp.

PAPAVER ARGEMONE. LONG PRICKLY-HEADED POPPY.

PAPAVER *Lin. Gen. Pl.* POLYANDRIA MONOGYNIA.

Cor. 4 petala. *Cal.* 2 phyllus. *Capsula* 1-locularis, sub stigmate persistente poris dehiscens.

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ, FLORE TETRAPETALO ANOMALÆ.

PAPAVER *Argemone* capsulis clavatis hispidis, caule folioso multifloro. *Lin. Syst. Vegetab.* p. 407. *Spec. Pl.* 725. *Fl. Suec.* n. 466.

PAPAVER foliis hispidis, pinnatis, pinnis lobatis, capitulis ellipticis, hispidis. *Haller Hist.* n. 1063.

PAPAVER *Argemone.* *Scopoli Fl. Carn.* n. 636.

ARGEMONE capitulo longiore. *C. Baub. Pin.* 172. *Ger. emac.* 273. *Park.* 370.

PAPAVER laciniato folio, capitulo hispido longiore. *Raii Syn.* p. 308. Long rough-headed bastard Poppy. *Hudson. Fl. Angl. ed. 2.* p. 230. *Lightfoot Fl. Scot.* p. 279.

RADIX annua, simplex, fibrosa.

CAULIS: ubi læte crescit caules profert plures, pedales, et ultra, foliosos, adscendentes, hirsutos, inter segetes vero caule solitario erecto sæpius gaudet.

FOLIA radicalia plurima, longe petiolata, pinnata, pinnis inciso-dentatis, dentibus mucronatis, caulina tripartita, pinnatifida, omnibus pilosis, superne saturate viridibus, nitidis, inferne pallidioribus.

PEDUNCULI pilosi, pilis adpressis.

CALYX: PERIANTHIUM diphyllum, seu triphyllum, deciduum, papilloso-hispidum.

COROLLA: PETALA quatuor, miniata, suberecta, remotiuscula, obverse ovata, apice crenulata, basi nigricantia, maxime caduca, *fig. 1.*

STAMINA: FILAMENTA viginti circiter, purpurea, plana, apice dilatata, nitida. ANTHERÆ brevissime pedicellatæ, biloculares. POLLEN cærulefcens, *fig. 2.* auct. *fig. 3.*

PISTILLUM: GERMEN longitudine filamentorum, clavatum, subangulatum, hispidum, pilis canis, adpressis. STIGMATIS radii 3 ad 5 villosi, cærulefcetes, *fig. 4.*

PERICARPIUM: CAPSULA oblonga, clavata, subangulosa, hispida, inferne nudiuscula, purpurascens, *fig. 5.*

SEMINA plurima, minuta, nigricantia, *fig. 6, 7.*

ROOT annual, simple, and fibrous.

STALK: where the plant grows luxuriantly, it puts forth several leafy, hairy stalks, a foot or more in height, and bending upwards, but among corn it is most commonly found with a single upright stem.

LEAVES next the root numerous, standing on long foot-stalks, pinnated, the pinnæ deeply indented, the teeth terminating in a short point, those of the stalk deeply divided into three segments which are pinnatifid, all the leaves are hairy, on the upper side of a deep green colour, and shining, on the under side paler.

FLOWER-STALKS hairy, hairs pressed close to the stalk.

CALYX: a PERIANTHIUM composed of two or three leaves, deciduous, hispid, the hairs issuing from small papillæ or prominent points.

COROLLA: four PETALS, of a scarlet colour, nearly upright, a little distant from each other, inversely ovate, finely notched at top, and blackish at the base, *fig. 1.*

STAMINA: about twenty FILAMENTS, of a purple colour, flat, dilated at top, and shining. ANTHERÆ standing each on a very short foot-stalk, having two cavities. POLLEN blueish, *fig. 2.* one of the stamina magnified, *fig. 3.*

PISTILLUM: GERMEN the length of the filaments, thickest at top, somewhat angular, hispid, the hairs grey and pressed to it. STIGMA composed of 3 to 5 villous rays, of a bluish colour, *fig. 4.*

SEED-VESSEL: an oblong, club-shaped CAPSULE, somewhat angular, hispid, below for the most part naked, of a purplish colour, *fig. 5.*

SEEDS numerous, minute, and blackish, *fig. 6, 7.*

This species of Poppy is distinguished by a variety of particulars besides its long prickly heads, which, though not absolutely necessary to discriminate the species, are well worthy of our attention. The divisions of the leaves are finer than in any of the other poppies. The petals in general grow more upright; and, instead of having the edges falling over each other, are usually a little distant. The stamina are very remarkable, having the filaments uncommonly dilated towards the top, not at the base, as HALLER asserts; and the Antheræ stand on a very slender foot-stalk placed on the top of each filament.

Like most of the other poppies it usually grows in corn fields, and is not very unfrequent in the neighbourhood of London. About the beginning of June it blossoms in Battersea Fields; but is often overlooked from the extreme fugacity of its petals, which rarely continue expanded more than six hours.





Helianthemum

Cistus

CISTUS HELIANTHEMUM. DWARF CISTUS.

CISTUS *Lin. Gen. Pl.* POLYANDRIA MONOGYNIA.

Cor. 5-petala. *Cal.* 5-phyllus; foliolis duobus minoribus. *Capsula.*

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CISTUS *Helianthemum* suffruticosus procumbens, stipulis lanceolatis, foliis oblongis revolutis subpilosis. *Lin. Syst. Vegetab. Sp. Pl.* 744. *Fl. Suec.* n. 472.

CISTUS foliis conjugatis, ellipticis, hirsutis, integerrimis, petiolis unifloris, subhirsutis. *Hall. Hist.* 1033.

CISTUS *Helianthemum.* *Scopoli Fl. Carn.* n. 649.

CHAMÆ CISTUS vulgaris flore luteo. *Bauh.* p. 465.

HELIANTHEMUM Anglicum luteum. *Ger. em.* 1282.

HELIANTHEMUM vulgare. *Parkins.* 656. *Raii Syn.* p. 341. Dwarf Cistus, or little Sun-Flower. *Hudson Fl. Angl.* ed. 2. p. 233. *Lightfoot Fl. Scot.* p. 281. *Oeder Fl. Dan.* 101.

RADIX perennis, sublignosa, fusca.

CAULES plurimi, suffruticosi, procumbentes, teretes, inferne glabri, superne hirsutuli, sæpius rubicundi.

FOLIA opposita, brevissime petiolata, oblongo-ovata, acutiuscula, marginibus subrevolutis, superne saturate viridia, scabriuscula, subpilosa, pilis furcatis, inferne subtomentosa, fig. 1.

STIPULÆ quaternæ, lanceolatae, pilosæ.

CALYX: PERIANTHIUM pentaphyllum, persistens, foliolis tribus superioribus ovatis, obtusiusculis, membranaceis, subdiaphanis, æqualibus, concavis, trinerviis, nervis coloratis, hirsutulis, duobus inferioribus minimis, lateralibus hirsutis, fig. 2, 3.

COROLLA; PETALA quinque obcordata, flava, margine exteriori crenulata, fig. 4.

STAMINA: FILAMENTA numerosa, capillaria, flava, receptaculo supra calycem inserta. ANTHERÆ subrotundæ, parvæ, flavæ, fig. 5.

PISTILLUM: GERMEN subrotundum. STYLUS longitudine flaminum, superne crassior, inferne sæpius curvatus. STIGMA capitatum, planum, fig. 6.

PERICARPIUM: CAPSULA subrotunda, calyce tecta, unilocularis, trivalvis, fig. 7.

SEMINA plurima, majuscula, ovato-acuta, rufa, fig. 8.

ROOT perennial, somewhat woody and brown.

STALKS numerous, somewhat shrubby, procumbent, round, below smooth, above slightly hairy, most commonly reddish.

LEAVES opposite, standing on very short foot-stalks, of an oblong ovate shape, somewhat pointed, the edges slightly rolled back, on the upper side of a deep green colour, roughish, and somewhat hairy, the hairs forked, on the under side a little downy, fig. 1.

STIPULÆ growing four together, lanceolate, and hairy.

CALYX: a PERIANTHIUM of five leaves and permanent, the three uppermost ones ovate, bluntish, membranous, somewhat transparent, equal, concave, three-ribbed, the ribs coloured and hairy, the two lowermost very small, lateral, and hairy, fig. 2, 3.

COROLLA: five PETALS inversely heart-shaped, of a yellow colour, the outer edge slightly notched, fig. 4.

STAMINA: FILAMENTS numerous, capillary, yellow, inserted into the receptacle above the calyx. ANTHERÆ roundish, small, and yellow, fig. 5.

PISTILLUM: GERMEN roundish. STYLE the length of the stamina, thicker in its upper part, and crooked below. STIGMA forming a little flat head, fig. 6.

SEED-VESSEL: a roundish CAPSULE, covered with the calyx, of one cavity and three valves, fig. 7.

SEEDS numerous, rather large, ovate, pointed, and of a reddish brown colour, fig. 8.

Most of the plants of the Cistus tribe are highly esteemed for their beauty, and generally cultivated in the gardens of the curious. Though our present species cannot vie with many of those which are the produce of warmer climates, yet it is one of the most ornamental of our native plants, and admirably well calculated to decorate a rock or dry bank, especially if its several varieties with white, rose, and lemon-coloured flowers be intermixed. The particular merit of this plant is, that it is hardy, easily propagated, either by seeds or cuttings, and continues for the greatest part of the summer to put forth daily a multitude of new blossoms.

Mr. LAWSON is said by Mr. RAY to have found it producing white flowers. I have myself observed a wild variety with pale yellow blossoms. A variety with double flowers is mentioned by HALLER, which, if it could be procured, would be a valuable acquisition to our gardens. LINNÆUS has remarked, that the petals sometimes have an orange-coloured spot at their base; and the leaves have been observed to vary much in breadth.

In chalky soils the *Cistus Helianthemum* is extremely common; but as that does not abound in the neighbourhood of London, it is consequently scarce with us.

On a close examination of the hairs on the leaves we discovered them to be forked; a character which may, perhaps, contribute to distinguish it from the *polifolia*, to which it seems very nearly related.

It flowers from June to August.



CISTUS GUTTATUS. SPOTTED-FLOWERED CISTUS.

CISTUS. Linn. Gen. Pl. POLYANDRIA MONOGYNIA.

Cor. 5-petala. Cal. 5-phyllus: foliolis duobus minoribus. Capsula.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CISTUS *guttatus* herbaceus exstipulatus, foliis oppositis lanceolatis trinerviis, racemis ebracteatis. Linn. Syst. Vegetab. ed. 14. Murr. p. 499. Mant. 403.

CISTUS annuus, foliis radicalibus oppositis, lanceolatis trinerviis, ramiferis ternatis linearibus. Sauv. Monsp. 148.

CISTUS foliis oblongo-acuminatis non stipulatis caule florali racemoso. Guett Stamp. 2. p. 181. Dalib. Parif. 158.

CISTUS flore pallido punicante macula insignito. C. B. Pin. 465.

TUBERARIA minor Myconi. Lugd. 1099.

CISTUS annuus II. Clus. Hist. 1. p. 77.

CISTUS annuus flore maculato. Ger. emac. 1281. f. 19. Spotted annual Cistus.

CISTUS annuus flore guttato. Spotted annual Cistus. Park. Th. p. 661.

HELIANTHEMUM flore maculoso. Col. Euphr. II. 78. t. 77.

Tota planta gratum odorem spirat, præsertim flores.

RADIX annua.

CAULIS semipedalis ad pedalem, erectus, ramosus usque ad basin, teres, hirsutulus, viscosus.

FOLIA opposita, connata, inferiora lanceolata, obtusiuscula, punctis prominulis scabriuscula, trinervia, hirsutula, superiora lanceolato-linearia.

FLORES racemosi, pedunculati, lutei, caduci, bracteati, et ebracteati, idque in eodem racemo; Pedunculi teretes, viscosi, ante florescentiam nutantes, pendente florescentia erecti, peracta florescentia reflexi, feminibus demissis iterum eriguntur.

CALYX: PERIANTHIUM pentaphyllum, persistens, foliolis tribus majoribus ovatis, acutis, concavis, viscosis, hirsutis, glandulis atro-purpureis punctatis, peracta florescentia convergentibus; duobus minoribus lanceolatis, ciliatis, patentibus, fig. 1.

COROLLA: PETALA quinque, obovata, lutea, macula purpurea ad basin notata, inæqualiter circumferrata, fig. 2.

STAMINA: FILAMENTA plurima; ANTHERÆ flavæ, fig. 3.

PISTILLUM: GERMEN subrotundum; STYLUS nullus; STIGMA magnum, flavum, villosum, fig. 4.

PERICARPIUM: CAPSULA trivalvis, valvis ovatis, concavis marginibus ad lentem ciliatis, fig. 5.

SEMINA plurima, minima, pallida, interno parieti valvarum per fila affixa, fig. 6.

The whole plant diffuses a pleasant odour, especially the flowers.

ROOT annual.

STALK from six inches to a foot in height, upright, branched quite to the bottom, round, slightly hairy, and viscid.

LEAVES opposite, connate, the lowermost lanceolate and somewhat blunt, the surface rough with little prominent points, three-ribbed, slightly hirsute, the uppermost lanceolato-linear.

FLOWERS growing in racemi, standing on foot-stalks, yellow, deciduous, with and without bractæ; and that on the same racemus; Peduncles round, viscous, drooping before the blossoms open, upright during their expansion, turning back again when the flowering is over, and again becoming upright on the shedding of the seed.

CALYX: a PERIANTHIUM of five leaves, continuing, the three larger leaves ovate, pointed, concave, viscous, hirsute, dotted with glands of a blackish purple colour, closing together when the flowering is over; the two smaller leaves lanceolate, edged with hairs, and spreading, fig. 1.

COROLLA: PETALS five, obovate, yellow, marked with a yellow spot at the base, the edge irregularly indented, fig. 2.

STAMINA: FILAMENTS numerous; ANTHERÆ yellow, fig. 3.

PISTILLUM: GERMEN roundish; STYLE none; STIGMA large, yellow, and villous, fig. 4.

SEED-VESSEL: a CAPSULE of three valves, the valves ovate, concave, the edges fringed when magnified, fig. 5.

SEEDS numerous, very small, of a pale colour, affixed by threads to the inside of the valves, fig. 6.

This very distinct species of Cistus, is first enumerated as a British plant in RAY's *Synopsis*, where it is described on the authority of Dr. SHERARD, as growing in the Isle of Jersey, on the west side, near Grosnez-Castle; and is further mentioned, on the authority of Mr. BREWER, in Mr. HUDSON's *Flora Anglica*, as being found in the Isle of Man; in sandy pastures on Llech ddue, near Holyhead; in France, Spain, and Italy, it occurs more frequently.

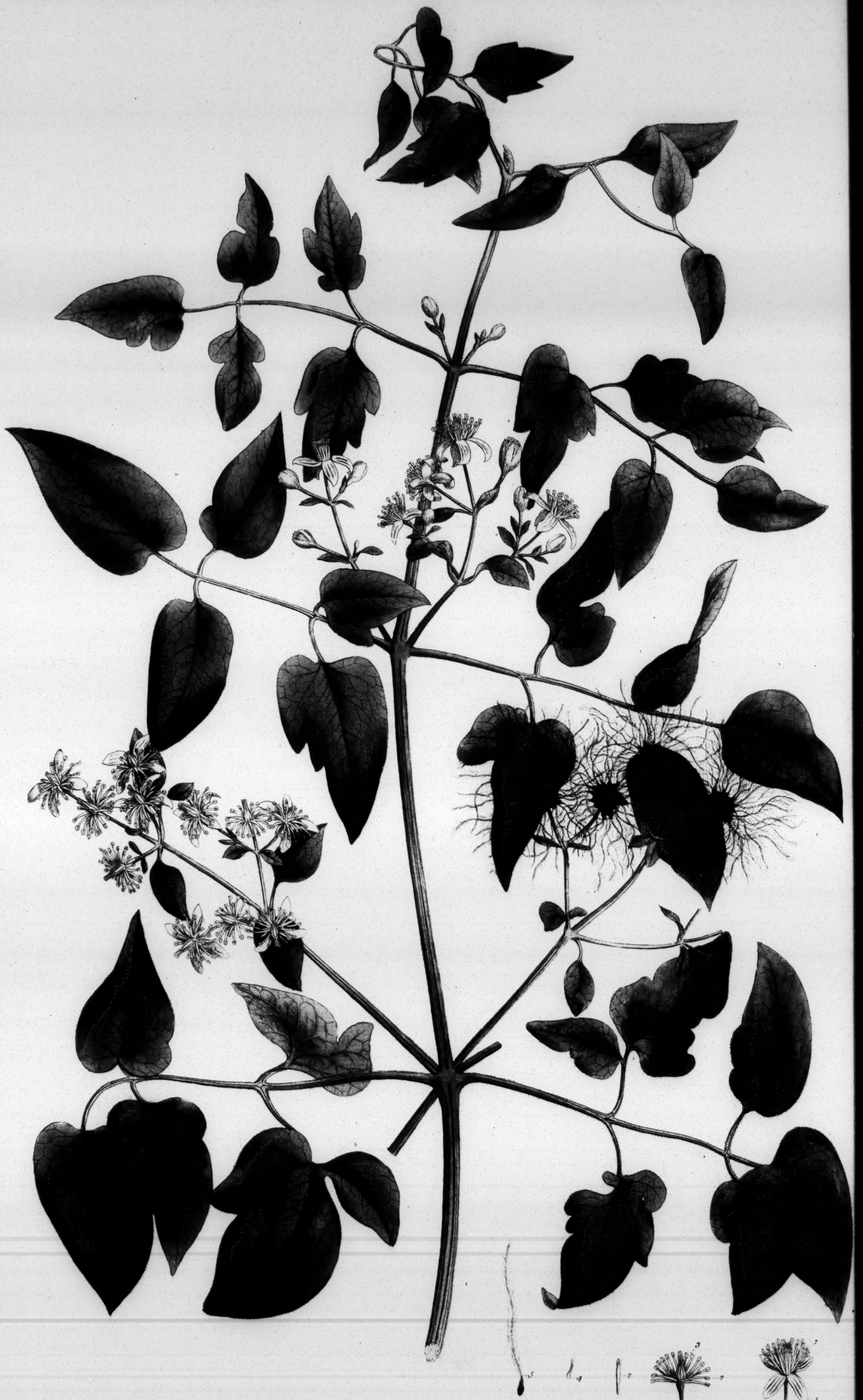
Both this Cistus and the *salicifolius* are annuals, in which respect they differ from all the other British species; from each other they are distinguished by several characters, none of which are more obvious than the disproportionate size of their respective seed-vessels. Several peculiarities attend on this species, some of which have escaped the observations of authors; the spots on the petals have been generally noticed, they contribute to render the flowers a pretty ornament; on the lower part of each of the larger leaves of the calyx one perceives numerous black glands, interspersed among the hairs, visible to the naked eye, and very conspicuous when somewhat magnified; CLUSIUS, who found this plant in Spain, describes it as covered with a sort of glutinous exudation; we have not perceived much of this, but we have found the whole plant diffuse a most delightful fragrance, more especially the flowers, and flower cups; this odoriferous matter, we apprehend, chiefly resides in the black glands we have mentioned.

In the middle of summer, the usual time of its flowering, when the mornings are long, and the solar rays powerful, the petals of this species will frequently fall off before nine o'clock; towards Autumn, we have observed them continue till noon; immediately on their falling, the three larger leaves of the calyx close together over the stamina, and pistillum, and secure them from any injury they might be liable to sustain from the early loss of their more delicate covering.

This plant is propagated without difficulty, it produces abundance of seeds, which readily grow; sow them in a pot of earth, in the Autumn; guard the seedlings, which will be small, against injuries during the Winter, and your plants will flower early the ensuing Summer; should your autumnal crop fail, sow again in the Spring, your plants will flower in the Summer, but later.

Has been observed by authors to vary with flowers without spots.





Clematis Vitalba.

CLEMATIS VITALBA. TRAVELLER'S JOY.

CLEMATIS *Lin. Gen. Pl.* POLYANDRIA PENTAGYNIA.

Cal. o. Petala 4. rarius 5. Sem. caudata.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

CLEMATIS *Vitalba* foliis pinnatis: foliolis cordatis scandentibus. *Lin. Syst. Vegetab. p. 426. Spec. Pl. 766.*

CLEMATIS caule scandente, foliis pinnatis, ovato lanceolatis, petalis coriaceis. *Haller Hist. n. 1142.*

CLEMATIS *Vitalba. Scopoli Fl. Carn. p. 669.*

CLEMATIS sylvestris latifolia. *Bauh. Pin. 300.*

CLEMATIS latifolia seu Atragene quibusdam. *J. B. II. 125.*

CLEMATIS sylvestris latifolia seu Viorna. *Parkin. 380.*

VIORNA *Ger. emac. 886. Raii Syn. 258. Great Wild Climber, or Traveller's Joy. Hudson Fl. Angl. ed. 2. p. 238.*

CAULES plurimi, perennantes, ope petiolorum, frutices arborefque vicinos, scandentes; junioribus hirsutulis, flexilibus, purpureis, nodis incrassatis; per ætatem crassitie digiti seu pollicis, profunde sulcatis, exalbidis, fruticosis.

FOLIA pinnata, opposita, patentia; pinnis duorum parium cum impari, remotis, cordatis, subacuminatis, integris, ferratis, lobatisve, e viridi flavescentibus, nitidulis, subtus venosis.

PETIOLI contorti, vicem cirrhi supplentes.

RACEMI florales ex foliorum alis, conjugati, foliosi, ramosi, trifidi, dichotomi.

FLORES pallide sulphurei, odorati.

CALYX nullus.

COROLLA: PETALA quatuor, cruciata, oblonga, submarginata, patentia, subrevoluta, villosa, superne pallide sulphurea, inferne virefcentia. *fig. 1.*

STAMINA: FILAMENTA plurima, filiformia, subcompressa, alba, longitudine corollæ, erecta; ANTHERÆ oblongæ, albidæ. *fig. 2.*

PISTILLUM: GERMINA plurima, minima, subrotunda, compressa, definitia in tot STYLOS subulatos, sericeos, longitudine staminum; STIGMATA simplicia. *fig. 3.*

SEMINA plurima, nuda, subrotunda, compressa, caudata. *fig. 4.*

STALKS numerous, perennial, by means of the leaf-stalks climbing the adjoining shrubs and trees, the younger ones slightly hirsute, flexible, purple; the joints enlarged; by age attaining the thickness of the finger or thumb, deeply grooved, of a whitish colour and shrubby.

LEAVES pinnated, opposite, spreading, the pinnæ consisting of two pair with an odd one, heart-shaped, remote from each other, and running out to a point, either entire, serrated, or lobed, of a yellowish green colour, somewhat shining, and veiny on the under side.

LEAF-STALKS twisted, answering the purpose of a tendril.

FLOWERING-BRANCHES proceeding from the axæ of the leaves, in pairs, leafy, branched, dividing first into three, and then into two smaller branches.

FLOWERS of a pale sulphur colour, and sweet-scented. CALYX none.

COROLLA: four PETALS cross-shaped, oblong, slightly nicked at the end, spreading, somewhat rolled back, villous, on the upper side of a pale sulphur colour, underneath greenish. *fig. 1.*

STAMINA: FILAMENTS numerous, filiform, somewhat flattened, white, the length of the corolla, upright; ANTHERÆ oblong, whitish. *fig. 2.*

PISTILLUM: GERMINA numerous, very minute, roundish, flattened, terminating in as many tapering, silky STYLES, the length of the stamina; STIGMATA simple. *fig. 3.*

SEEDS numerous, naked, roundish, flattened, and terminated by a long feathered tail. *fig. 4.*

The *Clematis** *Vitalba*† is a very common plant in the more southern parts of *Europe*, it delights in a situation that is elevated, and in a soil that is chalky, hence it is found more plentifully in some counties than in others; it is not frequent very near *London*, but abounds in the hedges around *Croydon*, and may be found, though more sparingly, about *Charlton*, also on the left hand side of the road leading from New-Cross Turnpike to *Lewisham*, near the spot where the *Dipsacus pilosus* grows: it flowers in *August*, and ornaments the hedges with its large branches of downy seeds† till the approach of winter.

Being a Climber, handsome both in its foliage and seeds, and rapid in its growth, it is often made use of for Arbours and Bowers in Gardens and Pleasure-Grounds; for this purpose young plants should be chosen raised from seeds. This quality, which is an useful one under proper restrictions, often becomes a noxious one in hedges, where it is apt to suffocate and destroy those trees and shrubs which are planted for defence.

School-boys often dry the stems, when about the thickness of the finger, and draw smoke through them instead of cane. The Farmer also uses the green stalks to fasten his gates with, &c.

HALLER quotes several authorities to shew the *Clematis* possessed of considerable acrimony, sufficient even to raise blisters on the skin, for which purpose it has sometimes been employed medicinally. A plant of the same genus, viz. *Flammula Jovis* (*Clematis recta* *Linnaei*) has been introduced into the last edition of the *Edinburgh Dispensatory*, on the authority of Dr. STORCK, who recommends the leaves to be externally applied, in sordid, ichorous, fungous, and cancerous ulcers, and caries of the bones; and preparations of them to be taken internally in the head-ach, nocturnal pains of the bones, venereal disease, itch and melancholy.

* So called from κλημα, *sarmentum*, a vine twig.

† Hence in some parts of *England* the plant is called *Old Man's beard*.

† Quasi *Vitis alba*, or white Vine.





Anemone nemorosa.

ANEMONE NEMOROSA. WOOD ANEMONY.

ANEMONE *Linnaei Gen. Pl.* POLYANDRIA POLYGYNIA.

Cal. o. Petala 6-9. Sem. plura.

Raii Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

ANEMONE *Nemorosa* feminibus acutis, foliolis incisis, caule unifloro. *Linnaei. Syst. Vegetab. p. 425.*
Flora Suecic. p. 190.

ANEMONE feminibus nudis, caule unifloro, foliis radicalibus nullis, caulinis quinque-partitis, lobis tripartitis incisis. *Haller. Hist. Helv. 2. p. 64.*

ANEMONE *Nemorosa. Scopoli Fl. Carniol. p. 383. n. 660.*

ANEMONE fylvestris alba major. *Baubin Pin. 176.*

ANEMONE nemorum alba. *Gerard emac. 383.*

RANUNCULUS nemorosus albus simplex. *Parkinson. 325. Raii Syn. 259, Wood Anemony. Hudson Fl. Angl. 208. Oeder Fl. Dan. tab. 549.*

RADIX teres, per terram oblique repens, crassitie pennæ coracis, externe castanea, intus alba, fragilis, fibrillis fuscis prædita.

CAULIS teres, simplex, triuncialis circiter, purpurascens, pilis mollibus vestitus, trifoliatus.

FOLIA terna, subtus hirsutula, tripartita, lobis incisis, lateralibus fere usque ad basin divisis.

PETIOLI breves, vaginantes.

SCAPUS uniflorus, nutans.

CALYX nullus.

COROLLA: PETALA sex aut septem, oblongo-ovata, alba, subtus incarnata, patentia, subemarginata, fig. 1.

STAMINA: FILAMENTA numerosa, inæqualia, capillaria, filiformia, alba: ANTHERÆ flavæ subrotundæ, biloculares, compressæ: POLLEN album, fig. 2, 3.

PISTILLUM: GERMINA in capitulum collecta, ovata, villosa: STYLI subulati, incurvati: STIGMA simplex, fig. 4, 5.

SEMINA plurima, nuda, oblonga, hirsuta, mucrone incurvo, fig. 6, 7, auct.

ROOT round, creeping obliquely under the surface of the earth, the thickness of a crow quill, externally chestnut colour'd, internally white, brittle, furnished with brown fibres.

STALK round, simple, about three inches high, purplish, covered with soft hairs, and bearing three leaves.

LEAVES growing three together, slightly hairy underneath, formed of three segments: the side lobes divided nearly down to the base.

FOOT-STALKS of the leaves short, and forming a kind of sheath.

FLOWER-STALK supporting one flower, and drooping at top.

CALYX wanting.

COROLLA: six or seven PETALS, of an oblong oval shape, white, underneath purplish, spreading, slightly notched in at top, fig. 1.

STAMINA: FILAMENTS numerous, unequal, very small, thread shaped and white: ANTHERÆ yellow, roundish, of two cavities, flattish, POLLEN white, fig. 2, 3.

PISTILLUM: GERMINA collected into a little head, oval, villous: STYLES tapering and bending downwards: STIGMA simple, fig. 4, 5.

SEEDS several, naked, oblong, hairy, the top bending downwards, fig. 6, 7, magnified.

FROM the observations of several Authors, the *Wood Anemone* may be considered as a poisonous plant. According to LINNÆUS, Cattle which have been brought from open to woody pastures, and have eaten of this plant, have been affected with the bloody Flux, and have made bloody Urine. HALLER informs us, that in *Kamtchatka*, the inhabitants are said to poison their Arrows with a species of *Anemone*, the wounds from which produce certain death.

The *Wood Anemone* produces its flowers early in the Spring. In most of our Woods the ground is nearly covered with them, in the months of April and May. In fine clear weather the blossoms are expanded, and become so erect as to face the sun; but in the evening, and in wet weather, they are closed and hang down, whereby the delicate parts of the flower are secured from injury.

The chief variation observed in it, is the colour of its Petals, which are sometimes quite white: and according to MERRET, they occur in *Devonshire* wholly red: both sorts, particularly when double, are cultivated by the Gardeners: and were the same pains to be taken with it, as with some of our foreign *Anemonies*, it might probably be very much improved in the eye of the Florist.

The leaves of divers plants, particularly the *Euphorbia Helioscopia*, are subject to be covered with small yellow dots, the effects of some Insect: this also sometimes happens to the *Wood Anemone*. In C. BAUHINE, we find it mentioned under the name of *Anemone nemorosa sterilis foliis punctatis*. This variety is somewhat unfortunately figured in DILLENIIUS's edition of RAY's *Synopsis*, and described as a Fern, to which it certainly has no pretensions, as is evident from the irregularity of its dots.





Anemone apennina

ANEMONE APENNINA. MOUNTAIN ANEMONE.

ANEMONE. *Linn. Gen. Pl.* POLYANDRIA POLYGYNIA.

Cal. o. Petala 6-9. Sem. plura.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

ANEMONE *apennina* feminibus acutis, foliolis incisis, petalis lanceolatis numerosis. *Linn. Syst. Veg. ed. 14. Murr. p. 511. Spec. Pl. ed. 3. p. 762. Hudson Fl. Angl. ed. 2. p. 237.*

ANEMONE *geranii robertiani* folio cærulea. *Baub. Pin. 174.*

RANUNCULUS *nemorofus*, flore cæruleo, apennini montis. *Mentz. pug. t. 8. f. 2.*

ANEMONE *hortensis tenuifolia*, simplici flore 1. *Clus. Hist. 1. p. 254.*

ANEMONE *Geranifolia*. Storke's-bill Winde-flower. *Ger. Herb. p. 304. fig. 7.*

RANUNCULUS *nemorofus* flore purpureo cæruleo. The fingle purple wood Crowfoote. *Park. Th. p. 325. Raii Syn. ed. 3. p. 259.*

RADIX	perennis, tuberosa, crassitie minimi digiti, difformis, fusca.	ROOT	perennial, tuberous, the thickness of the little finger, irregular in its shape, and of a brown colour.
CAULIS	teres, glaber, purpurascens, uniflorus, spithamæus.	STALK	round, smooth, purplish, about a span high, supporting a single flower.
FOLIA	radicalia ternata, petiolata, foliolis tripartitis, laciniis incisis, acutiusculis, utrinque pilosis; folium caulinum pedunculo subjectum (five involucrum) sessile, ter aut quaternatum, foliolis uti in folio radicali.	LEAVES	from the root growing three together, standing on foot-stalks, small leaves tripartite, segments incised, somewhat pointed, hairy on both sides; the stalk-leaf placed under the peduncle (or involucrum) sessile, composed of three or four leaves, small leaves as in those from the root.
FLOS	erectus, pallide cæruleus, odore suavi.	FLOWER	upright, of a pale blue colour, and sweet smell.
PEDUNCULUS	subpalmaris, teres, pilosus, subpurpurascens, juxta florem viridis.	FLOWER-STALK	about a hand's breadth in length, round, hairy, purplish, close to the flower green.
CALYX	nullus.	CALYX	wanting.
COROLLA: PETALA	12 ad 15, in tres ordines disposita, oblonga, fig. 1.	COROLLA: PETALS	from 12 to 15, disposed in three rows, of an oblong shape, fig. 1.
STAMINA: FILAMENTA	numerosa, inæqualia, capillaria, alba; ANTHERÆ erectæ, didymæ, flaventes, fig. 2.	STAMINA: FILAMENTS	numerous, unequal, capillary, white; ANTHERÆ upright, double and yellowish, fig. 2.
PISTILLUM; GERMINA	numerosa, in capitulum collecta; STYLI breves; STIGMATA obtusa, fig. 3.	PISTILLUM: GERMINA	numerous, growing in a little head; STYLES short; STIGMATA blunt, fig. 3.
SEMINA	plurima, subovata, compressa, villosula, apice purpurea, stylum incurvum retinentia, haud infrequenter abortiva, fig. 4, 5.	SEEDS	numerous, somewhat ovate, flattened, slightly villous, purple at top, retaining the style, which is bent downward, fig. 4, 5. frequently proving abortive.

The *Anemone apennina* found undoubtedly wild on the Apennine mountains, grows plentifully in Lord SPENCER'S Park at Wimbledon, but in such situations as leaves room to doubt its being an original native of that spot; we should therefore have scarcely considered ourselves justified in figuring it, as an English plant, had it not been mentioned by several authors as growing wild in different parts of the kingdom, as near *Harrow on the Hill*, Mr. DUBOIS; in a wood near *Luton-Hoe* in Bedfordshire, Mr. TH. KNOWLTON; *Ray's Syn.* and near *Berkhamstead*, Herts, Mr. GOODALL; *With. Arr. ed. 2.*

This species flowers the beginning of April at the same time as the Wood Anemone, with which it has some affinity in its foliage, but differs widely in its root and flowers, the former is much thicker, and more knobby, the Petals of the latter much narrower, more than twice as numerous, and of a colour wholly different, being of a light pleasant purplish blue: when they first expand, the outer part of the Petals has a rich purplish tint, which is lost when the flowers have been some time exposed to the sun.

It is a very ornamental plant, suitable to decorate the flower garden, shrubbery, or wilderness, it delights in a pure air, and a light loamy soil; we never could make it succeed in our Garden at Lambeth-Marsh, but at Brompton it thrives greatly.





Adonis autumnalis

ADONIS AUTUMNALIS. PHEASANTS-EYE.

ADONIS *Linnaei Gen. Pl.* POLYANDRIA POLYGYNIA.

Cal. 5-phyllus. *Petala* quinque plura absque nectario. *Sem.* nuda.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

ADONIS *autumnalis* floribus octopetalis, fructibus subcylindricis. *Linnaei Syst. Vegetab. p.* 427. *Sp. Pl. p.* 771.

ADONIS radice annua, flore octopetalo. *Haller hist. n.* 1158.

ADONIS *autumnalis.* *Scopoli Flor. Carniol. n.* 677.

ADONIS *hortensis*, flore minore atrorubente. *Baubin Pin.* 178.

FLOS ADONIS *Parkinson Parad.* 293.

FLOS ADONIS flore rubro. *Gerard emac.* 387. *Raii Syn.* 251, Adonis Flower, Red Maithes. *Hudson Fl. Angl. ed. 2. p.* 239.

RADIX annua, crassitie digiti minimi, fusiformis, paucis fibrillis instructa.

CAULIS pedalis, erectus, subangulatus, fistulosus, purpurascens, villosus, ad basin usque ramifusus.

RAMI plurimi, sparsi, cauli similes, erecti, caulem primo florentem plerumque superantes.

FOLIA alterna, e flavo viridia, infima petiolata, suprema sessilia, pinnata, pinnis multifidis, capillaribus, acutis, subtus nitidis.

CALYX : PERIANTHIUM pentaphyllum, foliolis subovatis, obtusis, inaequalibus, concavis, purpureis, deciduis, corolla brevioribus, apicibus dentato-erosis, *fig.* 1, 2.

COROLLA : PETALO octo, raro plura, sæpe pauciora, inaequalia, obcordata, coccinea, apice erosa, basi interne nigra, externe viridante, *fig.* 3, 4.

STAMINA : FILAMENTA plurima, quadraginta circiter, filiformia, alba; ANTHERÆ ovatae, obtusae, incurvatae, compressae, atropurpureae: POLLEN croceum, *fig.* 5.

PISTILLUM : GERMINA plurima, in capitulum breve subconicum imbricatum congesta, erecta: STIGMATA acuta reflexa, *fig.* 6, 7.

SEMINA subangulata, acuta, reticulato-rugosa.

ROOT annual, the thickness of the little finger, tapering, furnished with few fibres.

STALK about a foot high, upright, somewhat angular, hollow, purplish, hoary, branched quite to the bottom.

BRANCHES numerous, placed irregularly on the stalk, which they resemble, upright, and generally taller than the stalk producing the first flower.

LEAVES alternate, of a yellowish green colour; the lower ones standing on foot-stalks; the upper ones sessile, pinnated; the pinnæ divided into numerous capillary segments, pointed, and shining on the under side.

CALYX : a PERIANTHIUM of five leaves, which are somewhat oval, obtuse, unequal, hollow, purple, deciduous, shorter than the corolla, the tips appearing as if bitten, *fig.* 1, 2.

COROLLA : eight PETALS, seldom more, oftener fewer, unequal, inversely heart-shaped, scarlet, the tip irregularly notched, the bottom internally black, externally greenish, *fig.* 3, 4.

STAMINA : FILAMENTS numerous, about forty, thread-shaped, and white: ANTHERÆ oval, obtuse, bending inward, flattened, of a blackish purple colour: POLLEN of a saffron colour, *fig.* 5.

PISTILLUM : GERMINA numerous, upright, collected one over another into a short head, somewhat conical: STIGMATA pointed, the points turned back, *fig.* 6, 7.

SEEDS somewhat angular, pointed, with a kind of network wrinkled appearance.

THE *Pheasant's-eye* has a peculiar claim to an insertion in the *Flora Londinensis*, as it is one of those plants which are annually cried about our streets, under the name of *red Morocco*: it may nevertheless be doubted, whether it has not originally been conveyed from the garden to the dungheap, and from thence become an ornamental annual weed in many of the corn-fields in Kent, and other Counties adjacent to London, in which it seems as much at home, as the *Ranunculus arvensis*, or *Corn Crowfoot*.

There is no plant more variable in its Petals, both with respect to number and size; they therefore form a bad specific character.

It flowers in May, and the seed is ripe in June; hence there appears an evident impropriety in calling this species *autumnalis*: it will most probably be found, that the *autumnalis* and *æstivalis* are the same.

In the gardens, (where it is common,) it usually flowers through great part of the Summer.





Ranunculus hederaceus.

RANUNCULUS HEDERACEUS. IVY-LEAVED CROWFOOT.

RANUNCULUS *Lin. Gen. Pl.* POLYANDRIA POLYGYNIA.

Cal. 5-phyllus. *Petala* 5 intra ungues poro mellifero. *Sem.* nuda.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

RANUNCULUS *hederaceus* foliis subrotundis trilobis integerrimis, caule repente. *Lin. Syst. Vegetab.* p. 431. *Spec. Pl.* p. 781.

RANUNCULUS *aquaticus hederaceus luteus.* *Baub. Pin.* 180.

RANUNCULUS *hederaceus rivulorum se extendens, atra macula notatus.* *I. B. III.* 782.

RANUNCULI *aquatilis varietas altera.* *Ger. emac.* 836.

RANUNCULUS *hederaceus aquaticus.* *Park.* 1216.

RANUNCULUS *aquatilis hederaceus albus.* *Raii Syn.* p. 249. *Hudson Fl. Angl.* p. 243. *Lightfoot Fl. Scot.* p. 294. *Oeder Fl. Dan. ic.* 219.

RADICES plurimi, simplices, albidi, in limum profunde demissi.	ROOTS numerous, simple, whitish, penetrating deeply into the mud.
CAULES plurimi, teretes, solidi, geniculati, crassiusculi, repentes, late diffusi.	STALKS numerous, round, solid, jointed, thickish, creeping, spreading wide.
FOLIA petiolata, plerumque quinquelobata, subcarnosa, nitida, avenia.	LEAVES standing on foot-stalks, generally divided into five lobes, somewhat fleshy, shining, and veinless.
PETIOLI ad basin vagina magna, membranacea instructi.	LEAF-STALKS at the base furnished with a large membranous sheath.
PEDUNCULI axillares, petiolis breviores, uniflori, primo erecti, peractâ florescentiâ versus terram recurvati.	FLOWER-STALKS proceeding from the axæ of the leaves shorter than the leaf-stalks, supporting one blossom, at first upright, after the flowering is over, turned back towards the ground.
FLORES parvi albi.	FLOWERS small and white.
CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, margine membranaceis, flavescentibus. <i>fig. 1.</i>	CALYX: a PERIANTHIUM of five leaves, which are ovate, membranous and yellowish at the edges. <i>fig. 1.</i>
COROLLA: petala quinque alba, oblonga, obtusiuscula, calyce longiora. <i>fig. 2.</i>	COROLLA: five white PETALS of an oblong shape, somewhat obtuse, and larger than the calyx. <i>fig. 2.</i>
NECTARIUM: Porus nudus prope basin cujusvis petali. <i>fig. 3.</i>	NECTARY: a naked pore at the base of each petal. <i>fig. 3.</i>
STAMINA: FILAMENTA quinque ad decem. ANTHERÆ oblongæ, flavæ. <i>fig. 4.</i>	STAMINA: FILAMENTS from five to ten. ANTHERÆ oblong and yellow. <i>fig. 4.</i>
SEMINA plurima, obtusa, <i>fig. 5.</i> in capitula subrotunda, viciæ vulgaris magnitudine fere, dense stipata.	SEEDS numerous, blunt, <i>fig. 5.</i> crowded together in roundish heads, about the size of the common tare.

Neither LINNÆUS, HALLER, nor SCOPOLI, mention this plant in their respective Flora's. OEDER figures it in the *Flora Danica*: the plant he gives us appears as if it had grown in water of some depth; with us it is most commonly found spreading widely on the mud of flow shallow rivulets, especially where the soil is sandy.

It flowers during most of the summer months.

We sometimes meet with the leaves having a dark spot in the middle of each, and in some situations the blossoms are much larger than in others.



*Ranunculus repens*

S. J. S. S. S.

RANUNCULUS REPENS. CREEPING CROWFOOT.

RANUNCULUS *Lin. Gen. Pl. POLYANDRIA POLYGYNIA.*

Cal. 5-phyllus. Petala 5 intra ungues poro mellifero. Sem. nuda.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

RANUNCULUS *repens* calycibus patulis, pedunculis fulcatis, stolonibus repentibus, foliis compositis.
Lin. Syst. Vegetab. p. 430. Fl. Succ. n. 505. Sp. Pl. 779.

RANUNCULUS caule repente radicato, foliis semitrilobatis, lobis petiolatis. *Haller. Hist. 1173.*

RANUNCULUS *repens. Scopoli Fl. Carn. n. 689.*

RANUNCULUS *pratensis repens hirsutus. Bauh. pin. 179.*

RANUNCULUS *pratensis repens. Parkins. 329.*

RANUNCULUS *pratensis etiamque hortensis. Ger. emac. 951. Raii Syn. p. 247. Common creeping Crowfoot, or Butter-cups. Hudson Fl. Angl. ed. 2. p. 240. Lightfoot Fl. Scot. p. 292.*

RADIX plurimis fibris albescentibus constat.

CAULES ex una radice plerumque plures, pedales et ultra, variae magnitudinis, pro ratione loci, teretiusculi, hirsuti, repentis.

PETIOLI longi, hirsuti, ad basin dilatati.

FOLIA plerumque utrinque hirsuta (etiam glabra occurrunt) maculis albis subinde notata, trilobata, lobis petiolatis, bi et tripartitis, lobulis acute dentatis.

RAMI floriferi erecti, saepius biflori.

PEDUNCULI pubescentes, striati.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, concavis, patentibus, pilosis, flavescentibus, margine membranaceis, deciduis. *fig. 1.*

COROLLA: PETALA quinque, obcordata, patentia, flava, interne nitida. *fig. 2.*

NECTARIUM: Squamula parva, rotundata, ad basin cujusvis petali. *fig. 3.*

STAMINA: FILAMENTA plurima, ultra triginta, receptaculo inserta, apice paululum dilatata; ANTHERÆ oblongo-lineares, compressæ, incurvatae, flavæ. *fig. 4.*

PISTILLUM: GERMINA plurima, in capitulum collecta, compressa, erecta; STYLIS brevibus, acuminatis, apice reflexis terminati; STIGMATA simplicia. *fig. 5.*

SEMEN compressum, laeve, mucronatum. *fig. 6.*

ROOT consists of numerous whitish fibres.

STALKS generally several from one root, a foot or more in length, varying in size according to the place of growth, roundish, beset with rough hairs, and creeping.

LEAF-STALKS long, hairy and dilated at the base.

LEAVES generally hairy on both sides (sometimes they are found smooth and shining) frequently marked with white spots, composed of three lobes, or smaller leaves which have footstalks, these are divided into two or three segments, and sharply notched.

FLOWER-BRANCHES upright, generally supporting two flowers.

FLOWER-STALKS downy and striated.

CALYX: a PERIANTHIUM of five leaves, which are ovate, concave, spreading, hairy, yellowish, membranous at the edge, and deciduous. *fig. 1.*

COROLLA: five PETALS, inversely heart-shaped, spreading, yellow, shining on the inside. *fig. 2.*

NECTARY a small roundish Scale at the base of each petal. *fig. 3.*

STAMINA: FILAMENTS numerous, upwards of thirty, inserted into the receptacle, dilated a little at top; ANTHERÆ oblong and somewhat linear, flattened, bent inward, and yellow. *fig. 4.*

PISTILLUM: GERMINA numerous, collected into a little head, flattened and upright; terminated by short, pointed STYLES, which turn back at top, STIGMATA simple. *fig. 5.*

SEED flat, smooth, with a small point. *fig. 6.*

The *Ranunculus bulbosus* is a very noxious plant in dry pastures, as the *acris* is in the moist, and some of the best meadows about town; but where the *repens* abounds, it is more mischievous than either of those, and it is a plant so general in its growth, that few meadows or pastures are entirely free from it; it differs from the other two Crowfoots, in having stalks which run along the ground, and at every joint sending forth roots, and being a plant that will thrive in almost any soil, it is very apt to become the principal plant of the pasturage, to the great detriment of the farmer, as cattle in general have the greatest aversion to the Crowfoots.

From the astonishing diversity of soil and situation in which this plant is found, the varieties which it assumes are almost endless; by the Thames side it will grow three or four feet high, with a stem nearly as large as one's thumb; in barren, gravelly fields, it is entirely procumbent, with a stalk not larger than a small wheat straw, but in all its various states I have ever found it to have a creeping stalk, and this is a character which it does not lose by cultivation. HALLER, misled by his pupil WILlich*, who since has retracted his error, suspected it to be a variety of the *bulbosus*, but the *bulbosus* was never known to creep, this does wherever its stalk can touch the ground.

Its principal time of flowering is in the month of June, but it may be found in blossom during most of the remaining summer months.

Like the *acris* and *bulbosus* it is sometimes found double, but more rarely.

* XXXV *Ranunculum bulbosum* non in *repentem* mutari, ut in *Observationibus Botanicis* a. 1747. p. 4. scripseram, superiores observationes docuerunt. Utraque planta diversitates suas constantes retinet, ab ILL. LINNÆO nominibus specificis optime expressas. *Observat. de plant. quibusd. botting. 1762.*





Ranunculus Ficaria

RANUNCULUS FICARIA. PILEWORT.

RANUNCULUS *Linnaei Gen. Pl. POLYANDRIA POLYGYNIA.*

Cal. 5-phyllus. Cor. 5-petala. Sem. plurim. Petala ungue nectarifero.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

RANUNCULUS *Ficaria foliis cordatis angulatis petiolatis. Linnaei Syst. Vegetab. p. 428. Fl. Succic. p. 193.*

FICARIA *Haller hist. helv. n. 1160. Hudson Fl. Angl. p. 213.*

RANUNCULUS *Ficaria. Scopoli Fl. Carniol. p. 395.*

CHELIDONIA *rotundifolia minor. Baubin Pin. 309.*

CHELIDONIUM *minus. Gerard emac. 816. Parkinson 617. Raii Syn. 246, Pilewort or the lesser*

Celandine. Oeder Fl. Dan. icon. 469.

RADIX tuberosa, tuberibus numerosis, congestis, pallidis, subpyriformibus, modo brevibus, modo longe protensis; e summo tuberum oriuntur fibrillæ plurimæ.

CAULES plures, palmares et ultra, teneri, glabri, ad basin rubri, ramosi, decumbentes, nonnunquam etiam repentes, bulbillis in axillis foliorum radicanibus.

FOLIA *radicalia* subrotundo-cordata, variantia, longe petiolata, maculis albis interdum notata, glabra, venis superne impressis, subcrenata, *caulina* subtriangularia, angulosa.

PEDUNCULI uniflori, fulcati, peractâ florentiâ recurvati.

CALYX: PERIANTHIUM triphyllum foliolis concavis, deciduis, basi suâ caulem amplectentibus, *fig. 1.*

COROLLA: PETALA plerumque octo, quoad formam valde variantia, plerumque vero ovato-lanceolata, lutea, nitida, *fig. 2, 3.*

STAMINA: FILAMENTA numerosa; ANTHERÆ flavæ, oblongæ, compressæ, *fig. 6, 7.*

PISTILLUM: GERMINA numerosa, in capitulum collecta; STIGMATA parva, *fig. 8.*

SEMINA plurima subovata sæpius abortiva, *fig. 9.*

NECTARIUM squamula ad basin petalorum, *fig. 4, 5.*

ROOT tuberos, the knobs or bulbs numerous, crouded, of a pale colour, somewhat pear-shaped, sometimes short, sometimes extended to a considerable length; from the top of them arise many small fibrous roots.

STALKS numerous, four inches or more in length, tender, smooth, red at bottom, branched, decumbent, sometimes even creeping, from little bulbs in the bosoms of the leaves taking root.

LEAVES *next the root* of a roundish heart-shaped figure, variable, standing on long foot-stalks, sometimes spotted with white, smooth and shining; the veins on the upper side of the leaf pressed in, differently notched in different leaves; those of the stalk triangular with an angular margin.

FOOT-STALKS of the flowers, sustaining one flower on each, grooved, when the blossom is fallen bending backwards.

CALYX: a PERIANTHIUM of three leaves, which are hollow and deciduous, and embrace the top of the stalk, *fig. 1.*

COROLLA: generally eight PETALS, which vary exceedingly in their form, most commonly of an oval-pointed shape, yellow and shining, *fig. 2, 3.*

STAMINA: FILAMENTS numerous; ANTHERÆ yellow, oblong and flat, *fig. 6, 7.*

PISTILLUM: GERMINA numerous, forming a little head; STIGMATA very small, *fig. 8.*

SEEDS numerous, somewhat oval, most commonly abortive, *fig. 9.*

NECTARY a little scale at the base of the petals, *fig. 4, 5.*

BOTANISTS seem very much divided in their opinions respecting the genus of this plant, some making it a *Ranunculus*, others a genus distinct from it. Those who object to its being a *Ranunculus* urge its not having the characters of that genus; that the Calyx, instead of having five leaves, has only three, while the Petals are more numerous than in the *Crowfoots*: this is granted: but is a deficiency in, or an addition to any of the parts of the fructification, a sufficient reason for founding a new Genus? I should apprehend not; for such instances we meet with in plants almost every day: habit and peculiar characteristics are more to be attended to: and in this case, its glossy Petals, with its squamula or scale at the base of each; its grooved peduncles joined to its general appearance, seem fully to justify the great reformer of Botany in making it a *Ranunculus*.

Although the Calyx in general has only three leaves, it sometimes occurs with four and five.

As the *Pilewort* blows earlier than any of our other *Crowfoots*, it is liable to have its parts of fructification injured by the inclemency of the weather, to secure it from which, it has a power of closing its Petals in a much greater degree than the others, and in this state we usually find it in the mornings and evenings, and in wet weather; and may not nature to produce this effect deviate from the usual structure of the flowers of this genus? Is not the Calyx by being in three leaves stronger than if it had been in five? And will not the Petals by being more numerous make less resistance to the closing power of the Calyx?

In its first appearance in the Spring, this plant is small and extends but little; but in the month of May, particularly by the sides of moist ditches, it grows much more luxuriantly, and in this state, small bulbs, like grains of wheat, are observable in the bosoms of the leaves, which, as the stalks lie on the ground, get into the earth, and become the tuberos roots of young plants: this provision of nature for its encrease, seems the more necessary, as it is but seldom that its seeds come to perfection. Now and then ahead with perfect seeds is observable, and when the plant stands singly, the stalk supporting them bends towards the ground, so that the seeds may insinuate themselves: thus nature appears to have been abundantly careful in its preservation.

The Roots, like those of the *Orchis* and other bulbous plants, are renewed every year.

In some Meadows, Pastures and Orchards, it very much abounds, to the exclusion of more useful plants: as Cattle do not appear to eat it, it would be good husbandry to dig it up, and sow the ground with such plants as are more beneficial.

The particular form of its roots seems first to have introduced it as a medicine for the Piles, in which disorder, like many other remedies more rationally recommended, it may palliate, but will scarcely effect a cure.

It is cultivated in Gardens with a double flower.





Ranunculus auricomus.

RANUNCULUS AURICOMUS. WOOD CROWFOOT.

RANUNCULUS *Linnaei Gen. pl.* POLYANDRIA POLYGYNIA. *Cal.* 5 phyllus. *Petala* 5 infra unguis
poro mellifero. *Sem.* nuda.

Raii Syn. G n. 15 HERBÆ SEMINE NUDO POLYSPERMÆ.

RANUNCULUS *auricomus* foliis radicalibus subreniformibus, tripartitis, acute crenatis, caulinis digitatis linearibus.

RANUNCULUS *auricomus* foliis radicalibus reniformibus crenatis incis, caulinis digitatis linearibus, caule multifloro. *Linnaei Syst. Vegetab. p.* 429. *Fl. Suecic.* 194.

RANUNCULUS foliis radicalibus integris et semitrilobatis rotunde crenatis, caulinis multipartitis linearibus integerrimis. *Haller. hist. n.* 1177.

RANUNCULUS *auricomus.* *Scopoli Fl. Carn. n.* 687.

RANUNCULUS nemorosus vel sylvaticus folio rotundo *Bauhin pin.* 178.

RANUNCULUS *auricomus* *Ger. emac.* 954.

RANUNCULUS nemorosus dulcis secundus *Tragi Parkinson* 326. *Fuschii Icon.* 156. *opt. Raii Syn. p.* 248. Sweet Crowfoot or Goldilocks. *Hudson. Fl. Angl. p.* 211.

RADIX perennis, subpræmorsa, mitis, sapore subdulci Glycyrrhizæ accedenti, fibris multis capillari-
bus instructa.

CAULIS pedalis, erectus, dichotomus aut trichotomus, teres, glaber, basi purpureus.

FOLIA lævia, radicalia petiolis longis infidentia, subreni-
formia, mire variantia, integra, tripartita aut
etiam quinquepartita, plerumque vero tripartita
lobis acute crenatis, caulina inferiora pedata,
lobis latis, tripartitis aut quadripartitis, dentatis,
superiora sessilia, linearia, subintegerrima, am-
plexicaulia.

PETIOLI teretes, pubescentes.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis,
concavis, flavescentibus, patentibus *fig. 1.*

COROLLA: PETALA quinque, subrotunda, flava;
unguibus parvis. *fig. 2.*

NECTARIUM: fovea sine squamula ad basin petalo-
rum, supra unguis.

STAMINA: FILAMENTA plurima, basi angustiora;
ANTHERÆ oblongæ, flavæ, compressæ, incur-
vatæ; duas aut tres vidi connatas. *fig. 3. 5.*
auct.

PISTILLUM: GERMINA numerosa in capitulum col-
lecta; STIGMATA reflexa, minima. *fig. 4.*

SEMINA fusca, compressa, apicibus reflexis. *fig. 6.*

ROOT perennial, somewhat stumped, mild, with a taste
somewhat resembling liquorice, furnished
with many small fibres.

STALK about a foot high, upright, dividing into two
or three branches, round, smooth and purplish
at bottom.

LEAVES at the bottom of the stalk smooth, fitting on
long footstalks, somewhat kidney shaped, vary-
ing exceedingly, being sometimes entire, some-
times divided into three, or even five lobes,
but most commonly tripartite; the lobes acute-
ly crenated; the leaves towards the bottom di-
vided nearly to the base, with three or four
segments, indented; the uppermost leaves
sessile, linear, almost entire, and embracing
the stalk,

FOOT-STALKS of the leaves round and pubescent.

CALYX: a PERIANTHIUM of five leaves, the leaves
oval, concave, yellowish, and spreading. *fig. 1.*

COROLLA five roundish yellow petals, with small un-
guis or claws, *fig. 2.*

NECTARY: a depression without any scale, at the
bottom of the petals above the Claws.

STAMINA: FILAMENTS numerous, narrow at bot-
tom; ANTHERÆ oblong, yellow, flattened,
and incurvated. I observed two or three grow-
ing together. *fig. 3. 5.* magnified.

PISTILLUM: GERMINA numerous, collected into a
little head; STIGMATA small and reflexed. *fig. 4.*

SEEDS brown, flat with a reflexed point. *fig. 6.*

Distinguished from the other *Crowfoots* by its growing in Woods; (though I have sometimes found it in boggy meadows,) by its Calyx being nearly as yellow as its petals, and not turning back as in the *bulbosus*; the Nectary at the bottom of the petals a small oblique hole running downwards, not cover'd with any squamula; the bottom leaves of the plant more entire, and those at the top narrower than in most of the other *Crowfoots*; the footstalks of the flowers not grooved; the Petals often wanting, particularly when cultivated in Gardens, or not sheltered by Trees.

It flowers in April and May; and is not particularly distinguished for its Uses or Beauty.





Ranunculus acris.

RANUNCULUS ACRIS. UPRIGHT MEADOW CROWFOOT.

RANUNCULUS *Linnaei* Gen. Pl. POLYANDRIA POLYGYNIA.

Raii Gen. 15. HERBÆ SEMINE NUDO, POLYSPERMÆ.

RANUNCULUS *acris* calycibus patulis, pedunculis teretibus, foliis tripartito-multifidis, summis linearibus.
Linnaei Syst. Vegetab. p. 430. *Fl. Suecic.* p. 196.

RANUNCULUS foliis hirsutis, femitrilobatis, lobis lateralibus bipartitis, foliis caulinis femitrilobis. *Haller. hist. n.* 1169.

RANUNCULUS *pratensis* erectus *acris*. *Baubin. pin.* 178. *Gerard. emac.* 951. *Parkinson* 329. *Raii Synops.* p. 248. *Hudson. Fl. Angl.* p. 211. *Scopoli. Fl. Carniol.* p. 398.

RADIX perennis, e pluribus radiculis albidis constans.	ROOT perennial, consisting of numerous white fibres.
CAULIS bipedalis, erectus, fistulosus, teres, subpilosus, apice ramosus.	STALK generally about two feet high, upright, hollow, round, somewhat hairy, much branched at top.
FOLIA <i>Radicalia</i> petiolis longis erectis infidentia, tripartita, lobo medio trifido, lateralibus bilobis, omnibus acute dentatis aut incis, subhirsutis, supernè ad basin præsertim sæpe purpureis, venis subtus extantibus. <i>Caulina</i> radicalibus similia, in lacinias tenuiores vèro divisa et petiolis brevioribus infidentia, tandem linearia, sessilia. PETIOLI cum vaginis hirsuti.	LEAVES: <i>Radical</i> leaves standing on long upright footstalks, tripartite, the middle lobe trifid, the side ones bilobous, and all of them sharply indented, slightly hirsute, the upper surface particularly at the base frequently of a purple colour, the veins underneath prominent Leaves of the <i>Stalk</i> like the radical leaves, but more finely divided, and standing on shorter footstalks, at top linear and sessile. The FOOTSTALKS with their sheaths hairy.
PEDUNCULI teretes.	FOOT-STALKS of the Flowers round:
CALYX: PERIANTHIUM pentaphyllum, patens, flavescens, pilosum, foliolis ovatis, concavis, obtusis, margine membranaceis, fig. 1.	CALYX: a PERIANTHIUM of five leaves, spreading, of a yellow colour and hairy, the leaves oval, concave, and membranous at the edges, fig. 1.
COROLLA: PETALA quinque flava, nitentia, subcordata nunc emarginata, nunc integra, fig. 2.	COROLLA: five PETALS, yellow and shining, nearly heart-shaped, sometimes notched, sometimes entire, fig. 2.
STAMINA: FILAMENTA plurima, apice paululum dilatata, fig. 5. 4. ANTHERÆ flavæ, subincurvatæ, obtusæ, fig. 4.	STAMINA: FILAMENTS numerous, a little dilated at top, fig. 5. 4. ANTHERÆ yellow, obtuse, bending a little inward, fig. 4.
NECTARIUM: squamula emarginata, ad basin petalorum, fig. 3.	NECTARY: a small scale, slightly notched at top, at the base of each Petal, fig. 3.
PISTILLUM: GERMINA numerosa, in capitulum collecta, STYLI nulli; STIGMATA reflexa, fig. 6.	PISTILLUM: GERMINA numerous, forming a little head; STYLES none, STIGMATA reflex, fig. 6.
SEMINA: plurima, subrotunda, compressa, fusca, apice reflexa, fig. 7.	SEEDS numerous, roundish, flat, of a brown colour, bending back at the tip, fig. 7.

Most of the Ranunculi or Crowfoots are acrid and in some degree poisonous, and the species above described possesses this property in a very considerable degree; hence Linnæus has given it the name of *acris*; even pulling up the plant and carrying it to some little distance we have known sufficient to produce a considerable inflammation in the palm of of the person's hand who held it. Cattle in general will not eat it, yet sometimes when they are turned hungry into a new field of Grass, or have but a small spot to range in they will feed on it, and hence their mouths, as we have been credibly informed, have become sore and blistered. When made into hay it loses its acrid property, but is too stalky and hard to afford good Nourishment. It should seem therefore to be the interest of the Farmer as much as possible to root out this species from his Meadows that its place may be supplied with good sweet grass.

It grows too frequently in most of our meadows, and flowers in June and July.

The common people about Town and in many parts of the country call this and the other yellow Crowfoots by the names of *Butter-cups* and *Butter-flowers*, and this name seems to have originated from a supposition that the yellow colour of butter was owing to these plants; that this should be the case seems scarce probable, certainly it receives no good taste from it.





Ranunculus sceleratus

RANUNCULUS SCELERATUS. CELERY-LEAV'D CROWFOOT.

RANUNCULUS *Lin. Gen. Pl. POLYANDRIA POLYGYNIA.*

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

RANUNCULUS *sceleratus* foliis inferioribus palmatis; summis digitatis, fructibus oblongis. *Lin. Syst.*

Vegetab. p. 429. Sp. Pl. p. 776. Fl. Suecic. p. 194. n. 499.

RANUNCULUS foliis levibus, semitrilobatis, rotunde ferratis, fructu ovato. *Haller hist. p. 74. n. 1175.*

RANUNCULUS *sceleratus. Scopoli Fl. Carniol. n. 688.*

RANUNCULUS palustris apii folio lævis. *Baubin. pin. 180.*

RANUNCULUS palustris rotundifolius. *Ger. emac. 962.*

RANUNCULUS palustris fardonia lævis. *Parkinson. 1215. Raii Syn. p. 249. Round-leaved Water Crowfoot.*

Hudson Fl. Angl. p. 212.

Oeder Dan. icon. 570.

Lightfoot Fl. Scot. p. 291. Celery-leaved Crowfoot.

RADIX annua, fibrosissima, fibris albidis.

CAULIS erectus, pedalis ad bipedalem, insigniter crassus, fistulosus, lævis, ramosus.

FOLIA radicalia longe petiolata, nitida, subcarnosa, trilobata, lobis trifidis rotunde crenatis; caulina subsessilia, palmata; suprema elliptica.

FLORES exigui, flavi.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, concavis, flavescentibus, deciduis, *fig. 1.*

COROLLA: PETALA quinque, parva, ovata, flava, nitida, magnitudine calycis, decidua, *fig. 2.*

NECTARIUM: Fovea marginata, ad basin cujusvis petali, *fig. 3.*

STAMINA: FILAMENTA plurima, raro ultra viginti, basi tenuiora: ANTHERÆ flavæ, compressæ, biloculares, *fig. 5.*

PISTILLUM: GERMINA numerosa, in capitulum oblongum, collecta: STIGMATA minima, germinibus insidentia.

SEMINA plurima, compressa, ovato-acuminata, parva, receptaculo oblongo affixa, *fig. 6.*

ROOT annual, exceedingly fibrous, the fibres whitish.

STALK upright, from one to two feet high, remarkably thick, hollow, smooth, and branched.

LEAVES: radical leaves fitting on long foot-stalks, shining, somewhat fleshy, divided into three lobes; the lobes trifid, and roundly notched; stalk-leaves nearly sessile, and palmated; uppermost leaves elliptical.

FLOWERS small and yellow.

CALYX: a PERIANTHIUM of five leaves, the leaves oval, hollow, yellowish and deciduous, *fig. 1.*

COROLLA: five small, oval, yellow, shining PETALS, the size of the Calyx, and deciduous, *fig. 2.*

NECTARY, a depression or pore at the base of each Petal, surrounded by a prominent margin, *fig. 3.*

STAMINA: FILAMENTS numerous, seldom more than twenty, slender at bottom: ANTHERÆ yellow, flat and bilocular, *fig. 5.*

PISTILLUM: GERMINA numerous, collected together into an oblong head: STIGMATA very minute, fitting on the Germina.

SEEDS numerous, flat, oval and pointed, small, affixed to an oblong receptacle, *fig. 6.*

THIS species is distinguished from the other *Crowfoots*, by its growing in or near the water, by its broad shining bottom leaves, thick stalk, small yellow flowers, and smooth oblong seed-heads.

The leaves and flowers possess a considerable degree of acrimony, so as even to blister the skin, if applied to it: chewed in the mouth, they inflame and chop the tongue: nor have their effects been less violent when taken into the stomach. It is suspected to have proved poisonous to sheep. *Haller hist. helv. p. 75.*

It begins to flower in May and June, and continues in blossom all the Summer, by the sides of ponds and ditches. It is eaten by goats, but refused by kine, sheep, and horses, *Linn. Amæn. Acad.*





Ranunculus bulbosus.

RANUNCULUS BULBOSUS. ROUND-ROOTED OR BULBOUS CROWFOOT.

RANUNCULUS *Linnaei Gen. Pl. POLYANDRIA POLYGYNIA.*

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

RANUNCULUS *bulbosus*, calycibus retroflexis, pedunculis fulcatis, caule erecto multifloro, foliis compositis.

Linnaei Syst. Vegetab. p. 430. Sp. Pl. 778. Fl. Suecic. 196.

RANUNCULUS radice subglobosa, foliis hirsutis, semitrilobis, lobis petiolatis acute serratis. *Haller. hist.*

v. 2. p. 74.

RANUNCULUS *Scopoli Fl. Carn. v. 1. p. 400. DIAGN. Radix globosa. Calyces reflexi. Squamula nectarifera obtuse trigona.*

RANUNCULUS *pratensis radice verticilli modo rotunda. Baubin. pin. 179. Fuschii Icon. 160. Gerard. emac. 953. Parkinson 329. Raii Synop. 247. Hudson Fl. Angl. 211. Fl. Dan. Icon. 551.*

RADIX perennis, *subrotunda*, albida, solida, superne et inferne depressior, hinc radicem Rapæ quodammodo referens.

CAULIS pedalis, teres, *erectus*, fistulosus, hirsutus, ramosus.

FOLIA *radicalia* petiolis longis, hirsutis, basi vaginantibus infidentia, subprocumbentia, hirsuta, venosa, trilobata, lobo medio majori et longius petiolato, semitrifido, segmentis acute incis; lobis lateralibus trifidis, segmentis inferioribus profundius divisis; caulina subsessilia in lacinias plures tenuiores divisa.

PEDUNCULI *fulcati.*

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, concavis, *reflexis*, pilosis, apice obtusiusculis, margine membranaceis, basi *subpellucidis*, *fig. 1.*

COROLLA PETALA quinque obcordata, flava, nitentia, *fig. 2.*

NECTARIUM: squamula flava submarginata ad basin petali *fig. 3.*

STAMINA: FILAMENTA plurima, receptaculo inserta; ANTHERÆ oblongæ, flavæ, subincurvatae, *fig. 4.*

PISTILLUM: GERMINA numerosa in capitulum collecta; STYLI nulli; STIGMATA minima reflexa, *fig. 5.*

SEMINA plurima compressa, fusca, mucronata, lævia, arillata, *fig. 6.*

Fig. 7, ARILLUS, fig. 8, semen denudatum.

ROOT perennial, *roundish*, white and solid, flattened a little both at top and bottom, hence somewhat resembling a Turnep.

STALK a foot high, round, *upright*, hollow, hairy and branched.

LEAVES: the *radical* leaves placed on long hairy foot-stalks, which at bottom embrace the stalk, somewhat procumbent, hairy, veiny, and divided into three lobes; the mid-lobe largest and placed on a longer foot-stalk than the others, divided half way down into three segments which are sharply cut in; the side-lobes trifid, the lower segments more deeply divided than the others; the leaves of the *stalk* nearly sessile, deeply divided into numerous and narrower segments.

FOOT-STALKS of the flowers *grooved.*

CALYX: a PERIANTHIUM of five leaves, the leaves oval, hollow, *turned back* and hairy, bluntish at top, membranous at the edges, *thin and somewhat transparent* at bottom, *fig. 1.*

COROLLA. five PETALS, heart-shaped, yellow, and shining, *fig. 2.*

NECTARY: a small yellow scale at the bottom of the petal, with a slight indentation at top, *fig. 3.*

STAMINA; FILAMENTS numerous and inserted into the receptacle; ANTHERÆ oblong, yellow, and bending a little inwards, *fig. 4.*

PISTILLUM: GERMINA numerous, collected into a little head; STYLES none; STIGMATA very small and bending back, *fig. 5.*

SEEDS numerous, flat, brown, smooth, pointed, and covered with an Arillus, *fig. 6.*

Fig. 7, the ARILLUS, fig. 8. the seed taken out of it.

THIS *Crowfoot* has been considered by some Authors as the same Species with the *Ranunculus repens*, but certainly without any propriety, for there can be no doubt but they are as distinct as any two species of *Ranunculus* whatever. It is distinguished from the *repens* by several peculiarities, the principal of which are, 1st, its *reflexed calyx*, the turning back of which does not depend on any accidental circumstances, but solely on its particular structure; if it be plucked off, and held up to the light, the lower half of it will appear thin and almost transparent, hence not having a sufficient degree of solidity to support itself upright, it is reflected downwards;—2dly, the root in this species is *round*, and *solid*; in the *repens* it is *fibrous*: and 3dly, (which perhaps may be considered as the most essential difference) the stalk of the *bulbosus* is never known to *throw out any Stolones or Creepers*, which the *repens* always does in every soil and situation.

This Species blows earlier than either the upright or creeping *Crowfoot*, and is the second flower, which next to the Dandelion covers our meadows and pastures with that delightful yellow, which almost dazzles the eye of the beholder.

Like the rest of the *Crowfoots* it possesses the property of inflaming and blistering the skin, but more particularly the Root, which is said to raise blisters with less pain and more safety, than Spanish flies; and hence where blisters have been thought necessary, these roots have been applied for that purpose, particularly to the Joints in cases of the Gout. On being kept they lose their stimulating quality, and are even eatable when boiled.

HOFFMAN informs us that Beggars make use of them to blister their skins in order to excite compassion.

The Juice of this herb is said to be more acrid than that of the *Ranunculus sceleratus*, and if applied to the nostrils it provokes sneezing.

Hogs are fond of the roots and will frequently dig them up.

It abounds in dry pastures, and flowers in May; it is cultivated when double as well as the upright meadow *Crowfoot*, which last occurs in almost every Garden, under the name of *Yellow Batchelors Buttons*.





Ranunculus hirsutus.



RANUNCULUS HIRSUTUS. PALE-LEAVED CROWFOOT.

RANUNCULUS *hirsutus* radice fibrosa annua, caule hirsuto, calycibus papilloso-hispidis acuminatis, demum reflexis.

RANUNCULUS rectus foliis pallidioribus hirsutus. *J. Baubin.* 111. 417. *Raii Syn.* p. 247, Upright pale-leaved Crowfoot. *Raii Hist. Plant.* p. 582.

FROM having repeatedly observed, and carefully cultivated this plant, I find it to be perfectly distinct from the *bulbosus*, of which it is made a variety by some authors; though RAY and BAUHINE long since considered it as distinct.

As its stiff hairs are one of its characteristics, and constitute a part of its name in BAUHINE, I have made that its trivial name; and shall by way of contrast, enumerate the several particulars in which it differs from the *bulbosus*, to which in its general appearance it is nearly allied.

The root of the *bulbosus*, which forms one of the chief characters of that plant, is round and solid like a small turnip, remaining in the ground from year to year, and annually sending up new flowering stems: the root of the *hirsutus* on the contrary is simply fibrous and annual.

The stalk of the *hirsutus* is generally more branched and spreading, producing a greater number of flowers, and covered with stiffer and longer hairs, than in the *bulbosus*: the hairs indeed in the latter plant are more numerous and soft, approaching to pubescence or downiness, while in the former they are more rigid, or approaching to hispidity. The foot-stalks of the bottom leaves in the *hirsutus* are hollow, and if cut asunder, the nerves appear projecting into the inside of the tube; the leaves themselves are more perfectly trilobate than in the *bulbosus*; the middle and outermost lobe rounder, and less deeply divided at the edges. From the inner edge of each of the two side lobes a bit appears as if cut away. These leaves are frequently of a white or pale colour, in irregular spots, not unlike what we sometimes meet with in the *Ranunculus Ficaria*; and the upper surface is full of little projecting points, from whence the hairs issue.

We come now to a character which this plant has in common with the *bulbosus*, viz. its reflexed calyx: this has been the cause of its having been considered by most botanists as the *bulbosus*: not finding in LINNÆUS any other *Ranunculus* with a reflexed calyx, without any farther examination they concluded this to be the same. But although the calyx when turned back resembles that of the *bulbosus*, yet before the opening of the flower it is essentially different, being much more pointed, or as if it had been squeezed to a point with the fingers; and the outside of it is very visibly covered with little papillæ or projecting points, from whence the hairs proceed.

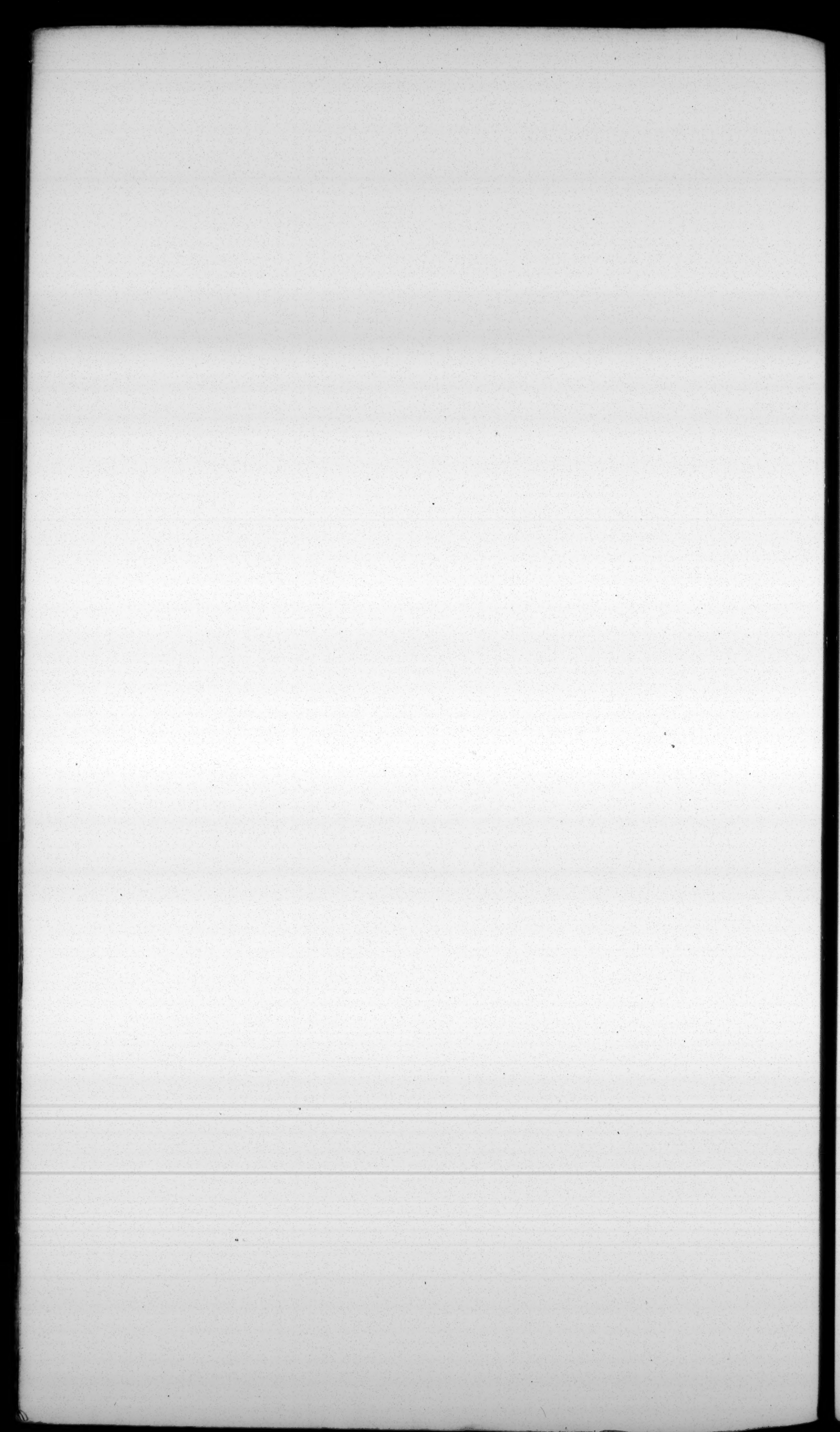
The flowers of this plant, as well as the seed, are also smaller than those of the *bulbosus*.

Such are the characters whereby these two plants may with attention be distinguished.

Nor do they differ less in their places of growth and times of flowering. The *bulbosus* grows in dry pastures, and flowers in the month of May. The *hirsutus* flourishes more by the sides of roads, in gardens, and rubbish, flowering from June to the end of the year.

I have observed this plant growing in great plenty by the side of the road betwixt Croydon and Mitcham; and I remember to have seen it near Gravesend; and plentifully by the sea-side; on the gravelly banks about Southampton; also in various places near London: and there is no doubt but it is a much more common plant than botanists may imagine.

No particular uses have been attributed to it.







Ranunculus. Flammula

RANUNCULUS FLAMMULA. SMALL SPEAR-WORT.

RANUNCULUS Linn. Gen. Pl. POLYANDRIA POLYGYNIA.

Cal. 5-phyllus. Petala 5, intra ungues, poro mellifero. Sem. nuda.

Raii. Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

RANUNCULUS *Flammula* foliis ovato-lanceolatis petiolatis caule declinato. Linn. Syst. Vegetab. ed. 14. Murr. p. 515. Sp. Pl. ed. 3. p. 772. Fl. Suec. n. 494. Scop. Fl. Carn. ed. 2. n. 682. Hudf. Angl. ed. 2. p. 240. Procumbent Crow-Foot or Spear-Wort. Lightfoot Scot. V. 1. p. 288. An lus-mòr, Ghlais-leun Gaulis.

RANUNCULUS foliis ovato-oblongis integerrimis, caule procumbente. Fl. Lapp. 325.

RANUNCULUS caule declinato foliis elliptico-lanceolatis subferratis. Hall. Hist. 1182.

RANUNCULUS longifolius palustris minor. Baub. Pin. 180.

RANUNCULUS flammeus minor. Ger. 814. fig. 2. the lesser Spear-Wort; also, Ranunculus flammeus ferrat, fig. 3. emac. p. 961. fig. 2, 3. Raii Syn. ed. 3. p. 250. the lesser Spear-Wort.

RANUNCULUS palustris flammeus minor five angustifolius. Park. Theat. p. 1214.

RADIX perennis, fibrosa, fibris simplicibus, majusculis.	ROOT perennial, fibrous, fibres simple, and rather large.
CAULES pedales et ultra, suberecti, flexuosi, parum compressi, subangulosi, pubescentes, purpureo-virides, ramosi, Rami breves, alterni, divaricati.	STALKS a foot high or more, somewhat upright, crooked, a little flattened, slightly angular, downy, of a purplish green colour, branched; Branches short, alternate, divaricating.
FOLIA radicalia ovato-lanceolata, utrinque acuta, longe petiolata, petiolo canaliculari compresso; caulina remota, oblongo-lanceolata, brevius petiolata, petiolis basi dilatatis, vaginantibus; suprema et floralia linearia; omnia lævia, nunc integerrima, nunc plus minus dentata, dentibus obtusis, inæqualibus, callosis, subfuscis.	LEAVES next the root ovato-lanceolate, pointed at each end, standing on long foot-stalks, the foot-stalk hollow on one side, and flattened, those of the stalk oblong-lanceolate, standing on shorter foot-stalks, which are dilated, and sheathing at the base; the uppermost, and those next the flowers, linear; all of them smooth, sometimes perfectly entire, sometimes more or less toothed, teeth obtuse, unequal, callous, and of a brownish colour.
FLORES in caulium ramorumque summitate, flavi.	FLOWERS on the top of the stalk and branches yellow.
CALYX: PERIANTHIUM 5-phyllum, foliolis ovatis, obtusis, villosiusculis, concavis, lutescentibus, deciduis, fig. 1.	CALYX: a PERIANTHIUM of five leaves, which are ovate, obtuse, slightly villous, concave, yellowish and deciduous, fig. 1.
COROLLA: PETALA 5, calyce triplo longiora, rotundato-subobcordata, patentia, parum concava, flava, superne splendentia, ungue brevissimo, fig. 2.	COROLLA: five PETALS, thrice as long as the calyx, roundish, and somewhat inversely heart-shaped, spreading, slightly concave, yellow, on the upper side glossy, claw very short, fig. 2.
NECTARIUM: foveola in ungue cujusvis petali.	NECTARY: a little cavity in the claw of each petal.
STAMINA: FILAMENTA plurima, ad 30, Corolla multo breviora; ANTHERÆ erectæ, oblongæ, didymæ, flavæ.	STAMINA: FILAMENTS numerous, to thirty, much shorter than the Corolla; ANTHERÆ upright, oblong, double, and yellow.
PISTILLUM: GERMINA numerosa in capitulum collecta; STYLI nulli; STIGMATA reflexa, fig. 3.	PISTILLUM: GERMINA numerous, forming a little head; STYLES none; STIGMATA bent back, fig. 3.

The *Ranunculus Flammula* grows plentifully with us in marshy places, and especially in the wet, and more boggy parts of heaths and commons, where it flowers from June to September.

The latter part of LINNÆUS's description of this plant, does not accord with the appearance it usually assumes with us, *caule adscendente*, which is the reverse of *declinato*, is indeed more applicable to it, not but the plant frequently grows nearly upright, as the old authors have represented it, though not so perfectly upright as the *Lingua*. Mr. HUDSON's english name of procumbent, as it implies a greater approximation to the earth, is still more objectionable; nor can much be said in favour of BAUHIN's name of *longifolius*, which some have adopted, as it gives an idea of a longer leaf than the plant has. The old Botanists called these two species of *Ranunculus Spear-Worts*, from the shape of their leaves, the great and lesser. Mr. RAY and Mr. LIGHTFOOT adopted those names, and we see no good reason why they should be discontinued.

The

The small Spear-Wort is one of those plants which is subject to great variation; DODONÆUS has observed, that in Holland, where it grows luxuriantly, it acquires the height of two cubits; in the cold barren soils of mountainous countries it is altogether as diminutive; in proportion to its strength, appears to be the uprightness of its growth; on the stony margins of lakes, HALLER observed it to be small and creeping, with linear leaves; as it receded from such situations, it became taller, and finally assumed its usual appearance: in this small and creeping state authors have considered it as a species; as such LINNÆUS has adopted it under the name of *reptans*, and Mr. LIGHTFOOT figured it on the frontispiece to the second volume of the *Flora Scotica*; but when the one described, and the other figured it as a species, they expressed their doubts of its being such: SCOPOLI also is of opinion that the *reptans* is no other than a variety, arising from soil and situation.

The leaves are usually toothed, especially the upper ones; sometimes they may be found entire, and sometimes more deeply indented, or serrated on their edges; the variety in this latter state the old authors describe, and figure as a species.

Instinct rarely fails in directing graminivorous animals to reject such herbs as would prove injurious to them, hence we seldom find this and the other acrid species of Crow-Foot eaten by cattle, but we know that under certain circumstances they will sometimes err, and become poisoned or diseased: GERARD says, "this plant is called *Bane-wort* by some, because it is dangerous and deadly for sheepe, and that if they feede of the same, it inflameth their livers, fretteth and blistereth their guts, and entrailes:" DODONÆUS, from whom GERARD probably borrows this account, reports the same, and that the plant takes its name in the Netherlands, from its pernicious effects on this harmless and useful race: HALLER quotes an author (*Le Noble lict p. 12.*) who says, that the livers of horses which had fed on this *Ranunculus* became rotten, and full of little bladders of water, as well as small animals resembling flounders; if the rot in sheep be occasioned by their feeding on any particular plant, and authors be not mistaken in what they say of this, none appears more likely to occasion it than the present one. Kine* are said to feed on it without injury.

Acrid as this *Ranunculus* is, and injurious as it may be to the larger animals, we observed on the 9th of last July, 1791, small black larvæ feeding on its flower buds and stamina, in those little kind of dells on Barnes-Common, where the water had been dried up, and where grew *Callitriche*, *Peplis*, &c. we suspect they were the larvæ of some coleopterous insect; and on the under side of a leaf of another plant of the same species, we discovered a cluster of eggs, sixty-four in number, deposited most probably by some species of moth; the leaves of this and of every other species of *Ranunculus* growing wild, or in our gardens, are yearly disfigured, and in some seasons destroyed by a very minute intercutaneous larva or maggot, producing a small fly, which we have named *Musca ranunculi*, and of whose history it is our intention to give an account elsewhere; we have represented one of the leaves on the plant as it appears marked by this insect.

Mr. LIGHTFOOT informs us, that the *Ranunculus Flammula* is used in many parts of the highlands to raise blisters; for this purpose, in the island of Jura, and other parts on the coast, the leaves are well bruised in a mortar, and applied in one or more limpet shells to the parts where the blisters are to be raised.

* Boves autem licet magnam comedunt hujus copiam ab hac affici non observavi. - Brugm.





Ranunculus arvensis

RANUNCULUS ARVENSIS.

CORN CROWFOOT.

RANUNCULUS. *Linn. Gen. Pl.* POLYANDRIA POLYGYNIA.

Cal. 5-phyllus. *Petala* 5 intra ungues poro mellifero. *Sem.* nuda.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

RANUNCULUS *arvensis* feminibus aculeatis, foliis superioribus decompositis linearibus. *Linn. Syst. Veget. ed.* 14. *Murr. p.* 518. *Fl. Suec. ed.* 2. *p.* 197. *Sp. Pl. ed.* 3. v. 1. *p.* 780. *Hudf. Fl. Angl. ed.* 2. *p.* 242. *Lightf. Scot. v.* 1. *p.* 294. *Scop. Carn. v.* 1. *p.* 400. *ed.* 2.

RANUNCULUS feminibus aculeatis, foliis tripartitis, lobis longe petiolatis, bi et tripartitis, acute incis. *Hall. Hist. n.* 1176.

RANUNCULUS *arvensis* echinatus. *Baub. Pin. p.* 179.

RANUNCULUS *arvorum.* *Park. Th.* 328. *fig.* 4. *Crowfoote* of the ploughed fields. *Raii Syn. ed.* 3. *p.* 248. *Corn Crowfoot.*

RANUNCULUS *arvorum.* *Crowfoote* of the fallowed field. *Ger. Herb. p.* 805. *emac. p.* 951. *f.* 3.

RADIX annua, simplex, fibrosa.

ROOT annual, simple, and fibrous.

CAULIS erectus, pedalis et ultra, teretiusculus, hinc subcompressus, inferne lævis, superne hirsutus, ramosissimus, ramis ante florescentiam subnutantibus.

STALK upright, a foot or more in height, roundish, flattened a little on one side, smooth below, slightly hirsute above, very much branched, branches nodding somewhat before flowering.

FOLIA pleraque alterna, superiora quædam opposita, subpetiolata, vaginantia, tripartita, laciniis trifidis, patentibus, lacinulis lanceolato-linearibus, bi-trifidis, acutiusculis, basi angustatis; radicalia petiolata, laciniis latioribus.

LEAVES mostly alternate, some of the upper ones opposite, short footstalk'd, sheathing, tripartite, the segments trifid, spreading, the smaller divisions lanceolato-linear, bifid or trifid, somewhat pointed and narrowed at the base; root leaves standing on long footstalks, segments broader.

FLORES flavi, minores.

FLOWERS yellow, rather small than large.

PEDUNCULI foliis oppositi, iis paulo longiores, patulo-erecti, teretes, pubescentes, solitarii, uniflori.

FLOWER-STALKS opposite to and somewhat longer than the leaves, betwixt upright and spreading, round, downy, single and one-flowered.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, concavis, lutescentibus, basi albidis, deciduis, *fig.* 1.

CALYX: a PERIANTHIUM of five small ovate leaves, concave, yellowish, whitish at the base, and deciduous, *fig.* 1.

COROLLA: PETALA 5, obovata, intus nitida, extus venosa, unguibus parvis, *fig.* 2.

COROLLA: 5 PETALS, inversely ovate, glossy within, veiny without, claws small, *fig.* 2.

NECTARIUM fovea in singulo petalo supra unguem, squamula emarginata clausa, *fig.* 3.

NECTARY: a small depression in each petal above the claw, covered by a small emarginate scale, *fig.* 3.

STAMINA: FILAMENTA circiter 16, corolla dimidio breviora; ANTHERÆ erectæ, oblongæ, obtusæ, didymæ, petalis concolores, *fig.* 4, 5.

STAMINA: about 16 FILAMENTS half the length of the corolla; ANTHERÆ upright, oblong, obtuse, double, the colour of the petal, *fig.* 4, 5.

PISTILLUM: GERMINA numerosa, in capitulum collecta; STIGMATA recurva, *fig.* 6.

PISTILLUM: GERMINA numerous, forming a small head; STIGMATA bent back, *fig.* 6.

SEMINA sex ad octo, echinata, *fig.* 7.

SEEDS about six or eight, prickly, *fig.* 7.

Of the genus *Ranunculus* there are several species which have prickly seeds, but no english one in which they are so conspicuously so as in the present; what a difference in size and form betwixt these and those of the *Ranunculus sceleratus*, plants evidently of the same genus!

The *Ranunculus arvensis* is a plant common to the corn-fields of most parts of Europe, but grows more abundantly in some soils than others; it flowers in May and June, and ripens its seeds in June and July. As these readily vegetate where they are spontaneously scattered, this species adds to the list of the weeds of our corn-fields, but not of the most formidable kind.







Caltha palustris.

CALTHA PALUSTRIS. MARSH-MARIGOLD.

CALTHA *Linnaei Gen. Pl. POLYANDRIA POLYGYNIA Cal. o. Petala quinque. Nectaria o. Capsulae plures polyspermæ.*

Raii Syn. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.

CALTHA palustris. *Linnaei Syst. Vegetab. p. 432. Flor. Suecic. 198.*

CALTHA *Haller. hist. helv. p. 32. n. 1188.*

POPULAGO palustris. *Scopoli Fl. Carniol p. 404.*

CALTHA palustris flore simplici. *Baubin pin 276.*

POPULAGO. *Tournefort. Tabernamont.*

CALTHA palustris vulgaris simplex. *Parkinson 1213.*

CALTHA palustris major. *Gerard. emac. 817.*

Raii Syn. 272. Marsh Marigold. Hudson Fl. Angl. p. 214.

RADIX perennis, e plurimis fibris, teretibus, majusculis, albidis, constans.

CAULES ex eadem radice nascuntur plures, suberecti, pedales, fistulosi, pene teretes, glabri, ramosi, ad basin purpurei.

FOLIA radicalia petiolata, cordato-reniformia, glabra, crenata, caulina subsessilia, ad apicem acutiora, et acute crenata.

STIPULÆ fuscae, membranaceae, marcescentes.

RAMI dichotomi.

PEDUNCULI uniflori, erecti, sulcati.

CALYX nullus.

COROLLA: PETALA plerumque quinque, flava, magna, subrotundo-ovata, plana, patentia, superne non splendentia, fig. 1.

STAMINA: FILAMENTA numerosa, filiformia, Corollâ breviora, ANTHERÆ oblongae, compressae, incurvatae, flavae, fig. 2.

PISTILLUM: GERMINA quinque ad decem, oblonga, compressa, erecta; STYLI nulli; STIGMATA simplicia, fig. 3.

PERICARPIUM: CAPSULÆ totidem, acuminatae, patentes, futurâ superiore dehiscentes, fig. 4.

SEMINA plurima, subovata, pulchra, inferne olivacea, superne rufa, fig. 5.

ROOT perennial, consisting of numerous, round, large, white fibres.

STALKS: several arise from the same root, almost upright, about a foot high, hollow, nearly round, smooth, branched, and purple at bottom.

LEAVES: the radical leaves placed on long foot stalks, betwixt an heart and kidney shape, smooth, shining, and notched or crenated; the leaves of the STALK nearly sessile, more pointed at top, and sharply crenated.

STIPULÆ brown, membranous and withered.

BRANCHES dichotomous.

PEDUNCLES supporting one flower, upright, and grooved.

CALYX wanting.

COROLLA generally consists of five large PETALS of a roundish oval shape and yellow colour, flat, spreading, and without any gloss on the upper side, fig. 1.

STAMINA: FILAMENTS numerous, filiform, shorter than the Corolla; ANTHERÆ oblong, flat, bending inward, and of a yellow colour, fig. 2.

PISTILLUM: GERMINA from five to ten, oblong, flattish, and upright; STYLES none; STIGMATA simple, fig. 3.

SEED-VESSEL: so many CAPSULES as Germina, pointed, and spreading, opening at the superior future, fig. 4.

SEEDS numerous, somewhat oval, beautiful, at bottom of an olive, and at top of a reddish colour.

LINNAEUS informs us that the *Caltha* is the first flower which proclaims the Spring in *Lapland*, and that it begins to blow about the end of May, with us it usually flowers in March and April, and last Spring, 1775, this plant was found in Blossom in the month of February, so remarkably forward was the Spring of that year.

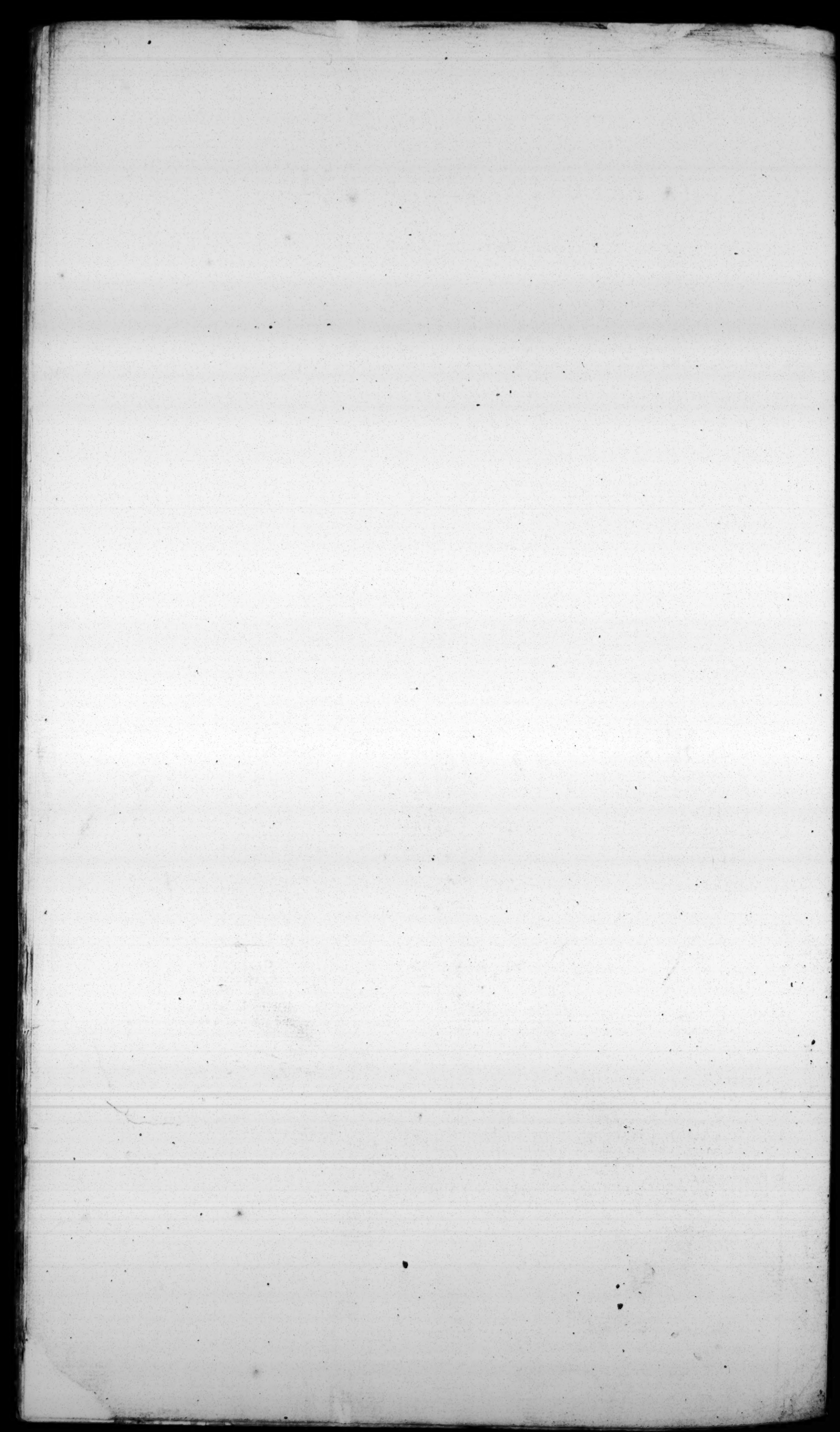
It grows in wet Meadows and by the sides of Rivers, where it makes a very noble appearance, and when double, is often cultivated in Gardens, where it will grow very readily if the soil be favourable.

In the Country, Children collect it to ornament their Garlands on May day.

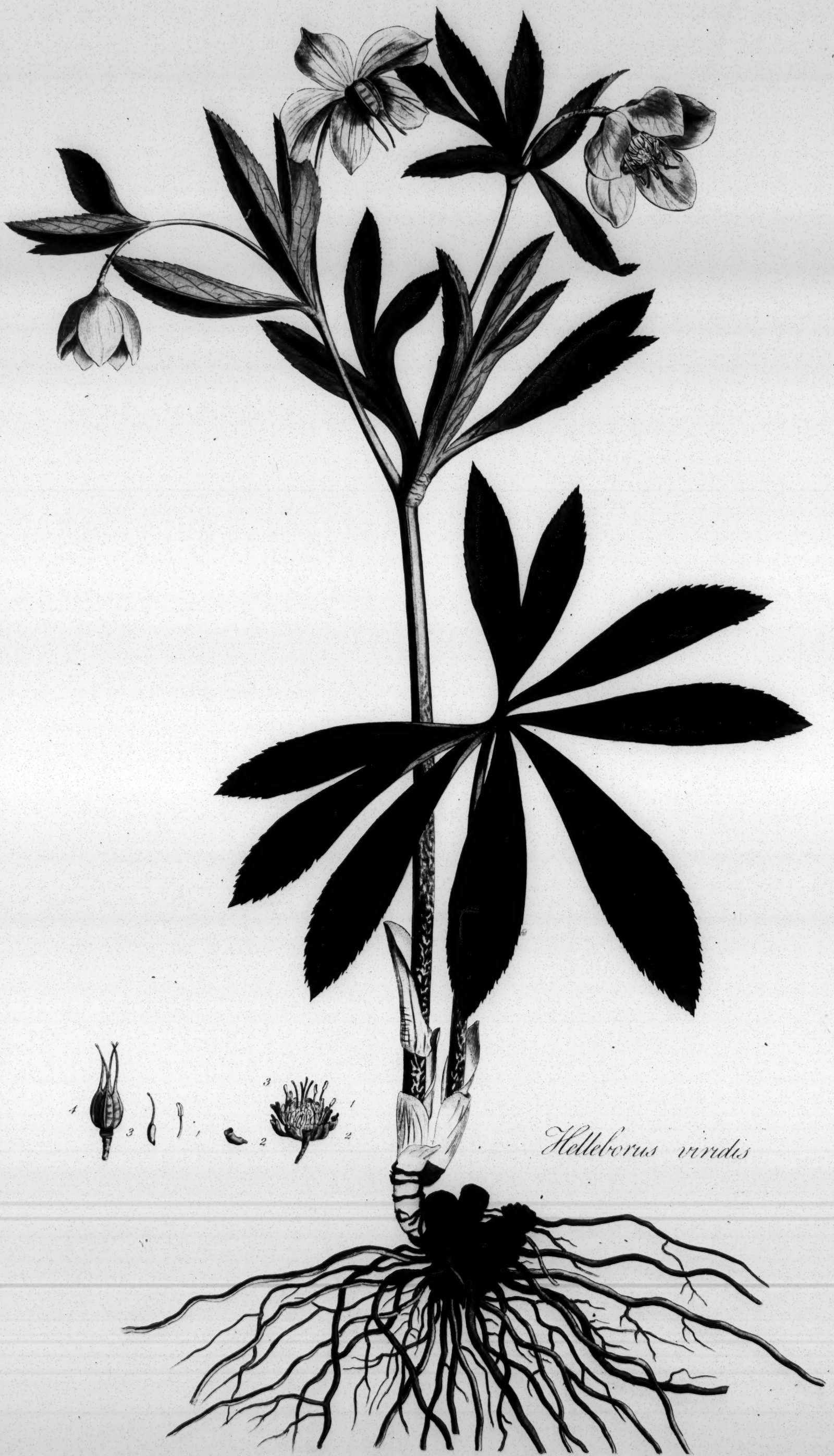
I scarce ever observed the leaves to be eaten by any animals, but the flowers are often destroyed by a species of *CHRYSOMELA*.

HALLER says that it is acrid and caustic and yet that it is eaten by Cows.

The flower Buds are pickled and used as Capers.







HELLEBORUS VIRIDIS.

GREEN HELLEBORE.

HELLEBORUS. *Lin. Gen. Pl.* POLYANDRIA POLYGYNIA.

Cal. o. Petala 5. f. plura. Nectaria bilabiata, tubulata, Capsulae polyspermæ, erectiusculæ.

Raii Syn. Gen. 17. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.

HELLEBORUS *viridis* caule bifido, ramis foliosis bifloris, foliis digitatis. *Lin. Syst. Vegetab. p. 59. Sp. Pl. 784. Scop. Carn. ed. 2. n. 697. Hudf. Fl. Angl. ed. 2. p. 245. Lightf Scot. p. 297. Jacq. Fl. Austr. v. 2. t. 205.*

HELLEBORUS foliis multipartitis, ferratis, caule paucifloro. *Hall. Hist. n. 1192.*

HELLEBORUS niger hortensis flore viridi. *Bauh. Pin. 185.*

HELLEBORASTER minor, flore viridante. Bastard blacke Hellebor or Bearesfoote. *PARR. 212.*

HELLEBORASTRUM Wilde blacke Hellebor. *Ger. Herb. p. 825. f. 2. emac. p. 976. f. 2. Raii Syn. ed. 3. p. 271.*

VERATRUM nigrum II. *Dod. Pempt. p. 385. f. 2.*

RADIX perennis, ex fusco nigricans, novos furculos quotannis promens, plurimis fibris, majusculis capillata, fibris longis, radice ipsa pallidioribus, intus albicantibus, saporis amari, subacris, ingrati.

CAULIS subsolitarius, erectus, pedalis circiter, plerumque bifidus, subnudus, glaber, teretiusculus, inferne purpurascens; ramis patentibus, foliosis, subbifloris.

FOLIA digitata, inæqualiter fissa, laciniis oblongo-lanceolatis, acutis, argute ferratis, venosis, obscure viridibus, lucidis; radicalia petiolata, multipartita, petiolo semitereti, sulcato; caulina ad divisiones ramorum pedunculorumque sessilia tri-quadri-quinquelobata.

FLORES mediæ magnitudinis, subnutantes, virides, subsuaveolentes.

PEDUNCULI subcompressi, rugosi.

CALYX nullus.

COROLLA: PETALA 5, ovata, obtusa, calyciformia, viridia, foliis pallidiora, intus venosa, persistentia.

NECTARIA circiter decem, luteo-virentia, inter petala et stamina, in orbem posita, erecta, tubulosa, pedunculata, ore obsolete bilabiato, crenato, *fig. 2.*

STAMINA: FILAMENTA numerosa, nectariis duplo longiora, subulata, lutescentia; ANTHERÆ erectæ, ovales, pallidæ, *fig. 1.*

PISTILLUM: GERMINA a duobus ad sex, raro plura, magna, oblonga, lævia; STYLI subulati, recurvati; STIGMATA obtusa, crassiuscula, *fig. 3.*

ROOT perennial, of a blackish brown colour, putting forth yearly new shoots, furnished with numerous large fibres, which are long, paler than the root itself, whitish within, of a bitter, somewhat acrid, and unpleasant taste.

STALK usually single, upright, about a foot in height, generally bifid, almost naked, smooth, nearly round, below purplish, branches spreading, leafy, supporting for the most part two flowers.

LEAVES fingered, unequally cloven, segments oblong-lanceolate, pointed, finely serrated, veiny, of a dull green and glossy, those next the root standing on footstalks, deeply divided into many segments, the footstalk convex on one side, flat on the other, and grooved, those of the stalk placed at the divisions of the branches and peduncles, sessile, three, four, or five lobed.

FLOWERS of a middling size, nodding somewhat, green, slightly odoriferous.

FLOWER-STALKS somewhat flattened and wrinkly.

CALYX none.

COROLLA: 5 PETALS, ovate, obtuse, calyx-like, green, paler than the leaves, veiny on the inside, continuing.

NECTARIES about ten, of a yellowish green colour, placed in a circle between the petals and stamina, upright, tubular, standing on footstalks, the mouth faintly two lip'd and notch'd, *fig. 2.*

STAMINA: FILAMENTS numerous, twice the length of the nectaries, tapering, yellowish; ANTHERÆ upright, oval, of a pale colour, *fig. 1.*

PISTILLUM: GERMINA from two to six, rarely more, large, oblong, smooth; STYLES tapering, bending back; STIGMATA blunt, thickish, *fig. 3.*

The *Helleborus viridis*, so called from the green colour of its flowers, is found sparingly in the neighbourhood of London, we have seen it wild only in one spot, a small wood near Finchley, where it was discovered by Mr. JACOB RAYER, a zealous and indefatigable labourer in the cause of Botany; in various other parts of the kingdom it is more common, but not generally so: with us it is usually found in woods and copses, especially such as have a moist stiff soil, which it particularly affects, and out of which it will not thrive; in different parts of Germany it is said to grow in open mountainous situations, and where, if we may judge from Prof. JACQUIN's figure, it is less luxuriant than here.

It begins to flower in February, and continues in blossom through March and part of April; when favourably situated it produces seeds in abundance.

C. BAUHINE observes, that its roots are by many used medicinally; their qualities are most probably the same as those of the *niger*, and *fætidus*, and hence there is little doubt but they may be safely substituted for those of the former, which is the true officinal plant: in fact they are so used in London. Mr. BABINGTON, who so honourably fills the station of Apothecary to Guy's-Hospital, assures me that great quantities of its roots are yearly sent up from the country, and used for those of Black Hellebore; they are of a lighter colour, which is the most obvious character by which they are distinguishable: it is a fortunate circumstance that from their being possessed of similar qualities, the health of the public is not likely to receive any material injury from an imposition so gross, or from ignorance so unpardonable. VOGEL informs us in his *Materia Medica*, that the Francfort and Hambro' merchants frequently substitute the roots of the *Adonis vernalis* for those of the *Helleborus niger*. To the injuries arising from such impositions the public will be liable, while medical men are so inattentive to the few plants now used medicinally, and while the walking an Hospital, as it is called, and dissecting a dead body, shall be considered as all-sufficient to qualify for the most important profession in life.



